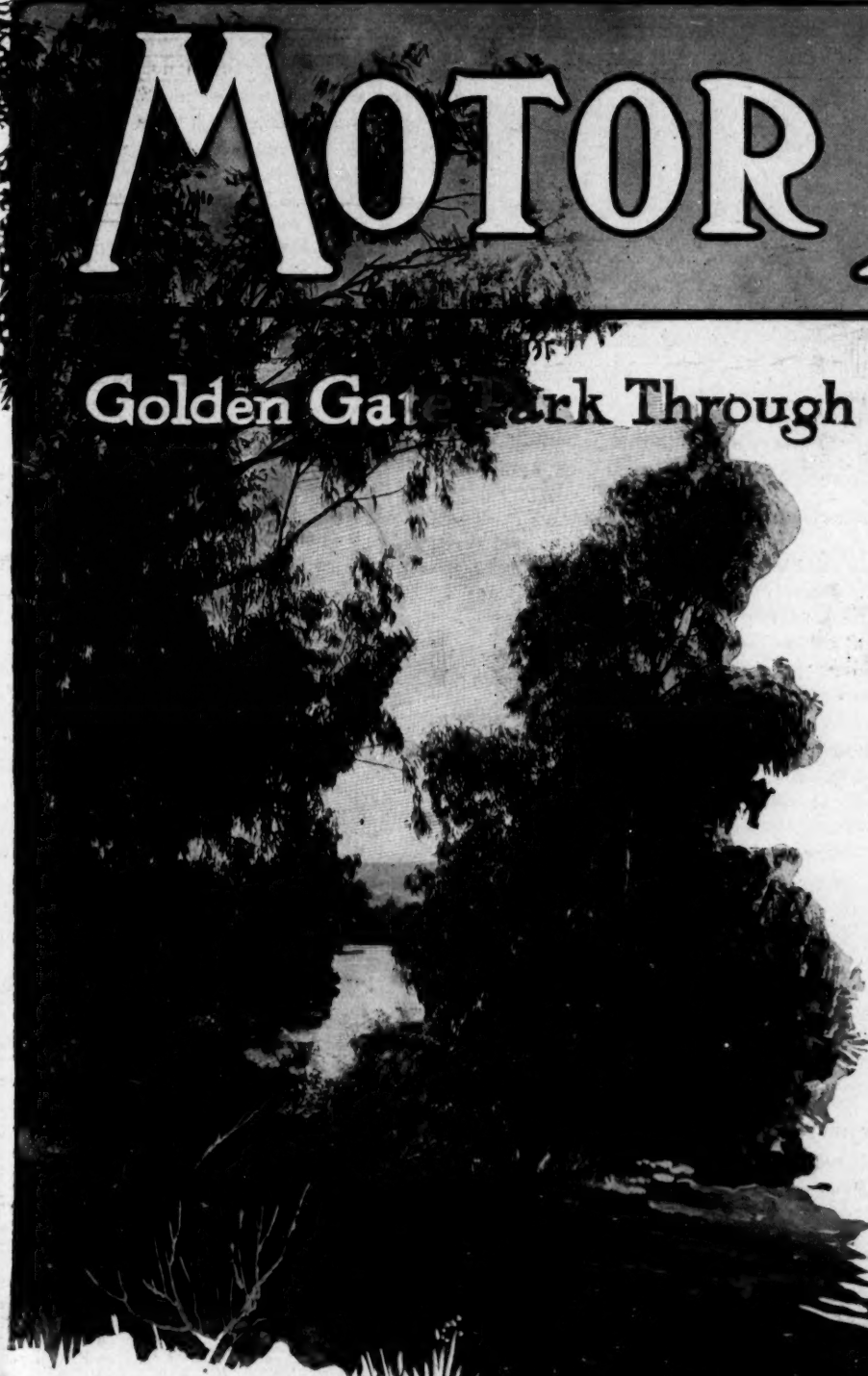


MOTOR AGE

Golden Gate Park Through a Motorist's Eyes

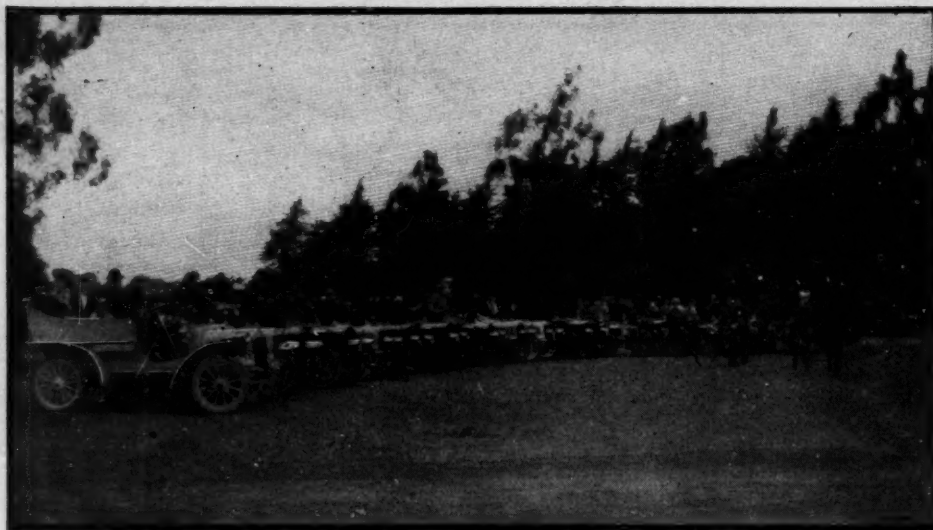
How well their task was performed anyone who has ever visited the park can testify to with enthusiasm.

The main drive through the park is a wide thoroughfare, so well kept that not an uneven place marks its course. It is said not to be surpassed by the Bois de Boulogne of Paris. For years, automobilists cast longing eyes upon this boulevard, and many were the maledictions and imprecations upon the park commissioners because its use was confined to horse-drawn vehicles. Still, the wise automobilist was rather guarded in his remarks, as he did not want to antagonize the park commissioners. He did not want to bring suit to test their right to exclude him, for, if he lost, he would probably lose certain other privileges in the park, and he considered half a loaf better than no bread. He shrewdly figured that by cajolery, good behavior, frequent pleadings and various subtleties, he would one day gain the coveted privilege. In the meanwhile he contented himself, or tried to content himself with what is called the south drive, from the entrance of the park to the beach. This, while a beautiful drive in itself and a good road, goes through less frequented and less attractive parts of the park, and does not afford the sight-seeing opportunities of the main drive.



WHEN you ask any San Franciscan what is the most attractive feature of his city he will answer unhesitatingly, "Golden Gate park." He is right. Approached from the heart of the city by a panhandle, so-called, 275 feet wide and a trifle more than two-thirds of a mile long, which is threaded by a beautiful boulevard lined with trees, shrubs and flowers, the park extends in gentle undulations, a distance of 3 miles to the ocean, ending in a broad driveway, usually called the Beach boulevard, along the shore of the rolling Pacific. The park is half a mile wide, and is

one of the largest three parks in the world. Originally the site was a series of sand dunes which changed position with every wind. Some of these are still to be seen south of the park, and the electric railroad which runs through them often has a hard time keeping its tracks clear during a wind storm. It was this kind of a location which the promoters of the park found necessary to improve, and it was certainly a formidable undertaking.



FAMOUS RENDEZVOUS AND A CHARACTERISTIC LINE-UP

Still the privilege was a good one. People came to recognize this drive as more or less the property of the automobilist; speed regulations were less rigidly enforced; the automobilist disported himself on the south drive, and his clan grew and flourished.

In those days, however, considerable caution was exercised before a speed enthusiast was allowed to invade the sacred portals of the park. He must have a license signed by the park commissioners, and a number which he must display at all times on his machine. He was furnished with a printed permit, upon which was appended a description of his salient physical characteristics after the manner of a limited, non-transferable, round-trip railroad ticket. After a time, this did not seem to be a sufficient identification, and the automobilist, like any other criminal, had to submit to having his photograph taken, and this was affixed to his permit, so that in case he disported himself unduly he might be brought up and positively identified. The chief engineer of the park pumping station was delegated to examine the would-be park oper-

ator on his proficiency in managing his car, which proficiency had to be demonstrated to the satisfaction of the examiner before the coveted permit, with its red tape decorations, could be secured. It is not recorded that anyone ever saw this engineer himself running an automobile, or that he ever qualified to operate one; howbeit, he succeeded in putting each applicant through a regular course of stunts, consisting of speeding, stopping, backing, describing figure 8s and dodging a dummy baby. This last procedure was the piece de resistance of the performance. Each applicant thought it absolutely incumbent upon himself to dodge the baby at any expense, and more than one performer did it at his peril. During the early days of this test, one exceptionally enthusiast, after purchasing a brand new steam runabout on which the varnish shone

and the brass work glistened in the sunlight, hied himself to the proving ground, and, after his preliminary efforts, braced himself to dodge the baby. He was told to proceed down the drive a distance and come back at a good speed, watching for the baby to be thrown and then to dodge it. The wise candidate always pretended to be coming rapidly, but really took his time so as to be prepared, but not so Mr. Enthusiast! Glorifying in the possibilities of his new machine, he tore down the drive under a full head of steam. From behind a tree, the baby was projected squarely in front of the car. Without a moment's hesitation, the candidate for operating honors turned out with all his might and the machine completely capsized. Result: one license, one repair bill for automobile, one repair bill for man!

The license test was maintained until the last session of the state legislature, when a general numbering law went into effect, and the park authorities saw fit to content themselves with the licensing imposed by that law. At the same time, the



THE BEACH BOULEVARD PASSES CARVILLE

restrictions on the main drive were partially removed. Duly labeled with a state seal and number, the motorist was allowed to use this portion of the park provided he was not detected at a speed exceeding 8 miles an hour. He must be careful not to break down, however, for he must get off before 6 o'clock at night, and on Sundays and holidays he must give way to the horse. On the south drive, the motorist might still run every day of the week at 15 miles per hour and faster if not detected, but he must go home before 11 o'clock. It was figured that good little motorists would be in bed by that time, and bad ones were not wanted. As a special club of discipline, to be used if needed, it was enacted that the new privileges were to be exercised only during good behavior and that they might be withdrawn at any time if abused. This has worked well, and the privileges are still in force.

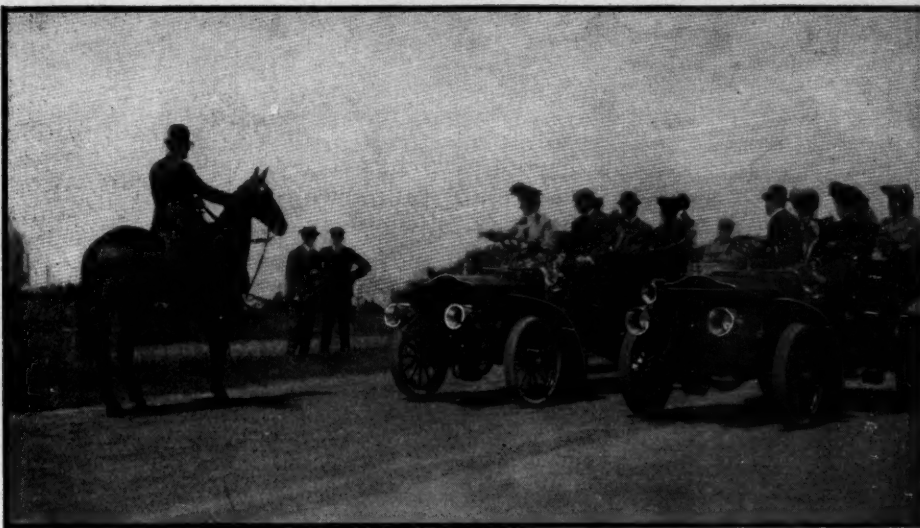
After these regulations had been put in force, considerable pressure was brought upon the commissioners to remove the P. M. limit on the south drive. It was explained that even good motorists, or those



SUMMIT OF A SAND DUNE NEAR GOLDEN GATE PARK

who claimed to be good, enjoyed a spin out to the beach after the theater. After considerable discussion, the board finally decided to let its rules stand as they were, but that they would not enforce the 11 o'clock restriction against well-behaved and conservatively-driven cars which might happen to be abroad beyond the fatal hour, but woe betide the man and car combining misbehavior with late hours! And there you are—when is a law not a law? Ask the Golden Gate park commissioners. At any rate, it is much more favorable to the officer than the law which was the subject of the little Irishman's abjurations in Elliott Flower's book, "Policeman Flynn." You remember how he put it when it appeared that the old speed ordinances were not applicable to automobiles?

"Luk at that, now," he said at last. "'Tis like thim gazabos that makes th' la-aw f'r to l'ave a cha-ance f'r th' ma-an that vi'lates it to shkin out iv it. Here I am thryin' to do me juty, an' no cha-ance f'r annything but th' wor-rst iv it, whativver I do. Th' la-aw is made



MODERN HOLD-UP IN GOLDEN GATE PARK

up. It was only a policeman who placed him under arrest, and, when the indignant early riser protested, pointed out the fact that the drive was open only from 6 a. m. to 6 p. m. The motorist soon became a sadder and a poorer man.

As the morning wore on, throngs of automobilists came to explore; gasoline machines chugged furtively amid unfamiliar surroundings and staid steamers stole silently around unexpected turns. The motorists brought their cameras and took photographs of their own cars amid the new surroundings, then of their friends, and finally of squads and troops of cars. Even the policemen posed.

Old Monarch's den was a center of interest. Monarch enjoys the distinction of being the largest grizzly bear in captivity. Zoologists dispute whether he is a true grizzly or not, but it matters little; he is generally conceded to be such, and, barring a few, a very few,

polar bears, he is probably the largest captive bear of any kind. He was captured and presented to the park in 1894 by the San Francisco Examiner, which probably undertook and carried out its self-appointed task as a matter of advertising.

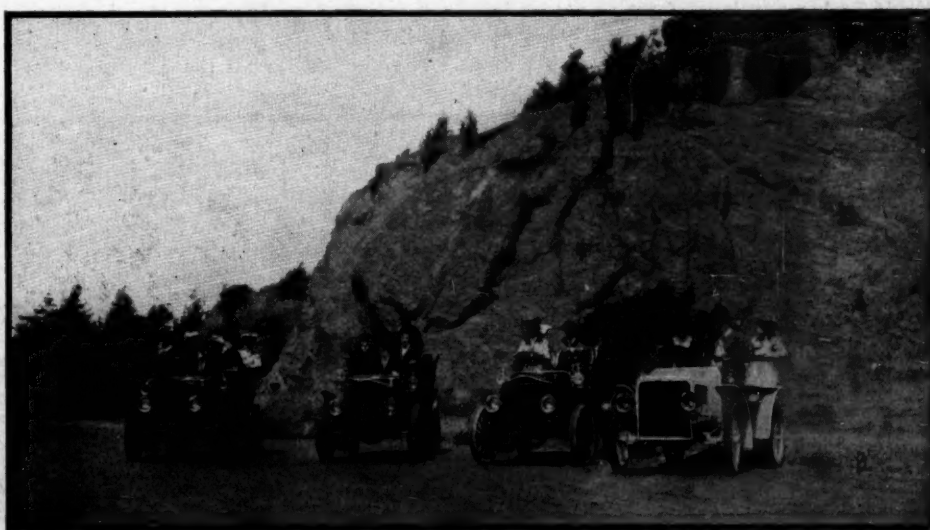
The beautiful conservatory claimed its share of attention. This building is 60 by 250 feet, and is modeled after the royal conservatory at Kew, England. It contains many extremely rare specimens of plant life, including a splendid Victoria Regis, the mammoth water lily. Further on were encountered the museum; the elk and buffalo paddock; the Spreckles lake, on which the Model Yacht Club sails its miniature craft; the beautiful chain of lakes across the park; the old Dutch windmill, and then the Beach boulevard. A finer stretch for an enjoyable run on a bright, warm day or a moonlit night cannot be imagined than this one along the ocean. Just after it crosses the south drive there is an odd sight. A number of old horse cars, displaced by cable and electricity, have been collected and converted into dwellings. So numerous are they and so conspicuous that the place is



SETTLEMENT, THE HOUSES OF WHICH ARE OLD CARS

f'r th' good people, but 't is r-read be th' coorts f'r th' other wans. If they's a hole in it, th' lawyer shticks a crowba-ar in, an' th' judge gives a bit iv help, an' bechune th' two they ma-ake th' op'nin' big enough f'r to put a locomotive injine through. If iver I had th' makin' iv th' la-aw I'd ha-ave first iv all in th' big book a sintence r-reading like this: 'Th' la-aws herein mane what they mane, an' not what they sa-ay.' 'Tis th' only wa-ay, f'r now whin a ma-an draws up a la-aw he knows what he's afther, an' iverybody else knows what he's afther, but the coort takes two fa-alls out iv it, an' he gets what he doesn't want, or ilse th' la-aw is broke into sma-all bits."

It was a great day in San Francisco when the main drive was opened. One ambitious motorist was anxious to be the first over the new course. He set his alarm for 4 o'clock, rose with the early streaks of dawn, hastily cranked up, and just as the rising sun peered curiously at him from the east, he fearlessly invaded the unknown region. Alas for the early worm! An early bird—call him a blue jay if you will—proceeded to gobble him



PICTURESQUE INDIAN BLUFF IN THE PARK



ON THE LEFT THE ELK AND BUFFALO PADDOCK IN THE PARK, THE DRIVE BEING TO THE RIGHT

known as Carville. Frequenters of the park usually take their home trip over the south drive, which gives an opportunity for a comparatively speedy spin. An eye must be kept open, however, for the omnipresent policeman. He bobs up unexpectedly when least wanted. An incident in point concerns a party which spent the night at one of the beach resorts. The home trip was started just after the drive became open at 6 a. m. This particular trip was taken late in the autumn when it was just daylight at that hour. Someone espied a sleepy peacock roosting on the lower branches of a tree, and one of the girls expressed a desire for a sample of its tail feathers. The machine was stopped, and the chauffeur sent to attempt the spolia-tion. It had succeeded to the extent of two long feathers when a policeman happened upon the marauders. It is stated that before the man at the head of the party was a free citizen again, the two feathers had cost him \$50 apiece.

Such are the lights and shadows of Golden Gate park, the beauty spot of San Francisco. It is planned to extend the panhandle, which is really a park in itself, clear into the heart of San Francisco, making it more accessible and enjoyable than ever. It is so beautiful that the motorist hardly wants to speed through it. If he has any love of art or nature in him he prefers to roll leisurely along in admiration and enjoyment. Children play

on their beautiful playground and lawns. Tennis enthusiasts keep the courts busy. Men and boys play ball on the athletic field. On Sabbath afternoons, vast concourses throng around the band stand to listen to the excellent park band. Weary-bodied and brain-fagged people steal out to rest; and once in a while some poor,



DODGING THE BABY

tired soul, when the struggle of life has become more than he can bear, wanders out at night, under the trees and the stars, and there, as near to nature and to nature's God as he can get, gives back the life he can no longer live.

The park is for all the people and for

all classes of people. The park commissioners are prominent, representative citizens. The board has been particularly free from politics, and for awhile allowed the motorists considerable freedom in the parks. While not committing itself by raising the bars entirely it been apparently half-blind to many of the violations of the ordinances.

There is one fly in the ointment now, and that is that unusual activity is being displayed by the park authorities of late, which brings up the old point of the motorists going to the courts for relief. It has been suggested that the Automobile Club of California go to the front in the matter, and it is possible it will. The chief complaint now is that the authorities are going after motorists who venture on prohibited drives and on the numbering proposition. The fight is not on the speed laws and it is not the scorcher who is being haled into court. Of course, all these arrests cause considerable ill-feeling, for the poor motorists often have to go to lots of trouble to secure bail. Since this trouble came up the state laws have been gone through in an effort to find a loophole. The park automobile ordinance has been craftily drawn, and while it is believed the measure was drafted with the idea of giving the motorist as many privileges on the road as others, still it is possible to twist it around so that the motorist can be bothered if the authorities



WIDE ROADWAY WITH ITS BRANCHES, JUST INSIDE THE ENTRANCE TO GOLDEN GATE PARK



THE MAIN DRIVE IN THE PARK, WITH SPRECKELS LAKE ON THE LEFT

so will it. The provisions of the state law which govern the matter are contained in section 4, subdivisions 3 and 4. Subdivision 3 reads, in part:

"Subject to the provisions of this act, local authorities shall have no power to pass, enforce or maintain any ordinance, rule or regulation requiring any owner or operator of a motor vehicle any license or permit to use the public highways, or excluding or prohibiting any motor vehicle whose owner has complied with section 2 of this act from the free use of such highways, except such driveway, speedway or road as has been or may be expressly set apart by law for the exclusive use of horses and light carriages."

Subdivision 4 reads in part:

"Local authorities may, notwithstanding the provisions of this act, make, enforce, and maintain such reasonable ordinances, rules or regulations concerning the speed at which motor vehicles may be operated in any public park or parkways, but in that event must by signs at each entrance of such park and along such parkways, conspicuously indicate the rate of speed permitted or required, and may exclude motor vehicles from any cemetery used for the burial of the dead."

Following the wording of the statute, the ordinance adopted by the park commissioners provides:

"All driveways, speedways and roads in the public parks of the city and county

of San Francisco are hereby set apart for the exclusive use of horses and light carriages at all times, except that certain of the roads, driveways and speedways in the Golden Gate park, and the great highways, may be used by motor vehicles for the conveyance of passengers only, under the provisions and subject to



OLD DUTCH MILL IN GOLDEN GATE PARK

the limitations of section 2 hereof."

Then follows a recital of the conditions under which certain of the park drives may be used, stating the hours at which motor vehicles will be excluded from the main and other drives.

Legal sharps who have gone into the

matter hold that it is possible for the motorist to gain his rights if he makes a fight for them. The kick is not on the speed clause but on the right to use the highways. Coast enthusiasts are rational and believe it is against public policy to go tearing through the country or through the parks at a pace that will endanger pedestrians. Of course there are exceptions to this rule—there are bound to be—but the conservative element is in the majority out this way and in general obeys these laws. But the Californian who owns an automobile believes he is just as much entitled to use the drives of the park as is the man who drives a horse, and it is on these grounds that he is ready to fight. He feels that if it is possible to so construe the present laws that he may be discriminated against then it is time to go to the legislature and have these rules changed. The right to go where one wants to in Golden Gate park is a prize that is worth striving for and the coast people are in a warlike mood at the present moment. The park gives one of the few opportunities the city affords for enjoyable motoring and it does not look like good policy to drive the residents out in the suburbs to motor. As things are now, an owner wishing to take an evening's drive has to go across the bay or into San Mateo county, which is putting him to unnecessary bother. It is believed that the Automobile Club of California will take up the cudgel.



END OF THE FAMOUS BEACH BOULEVARD AND GLIMPSE OF THE PACIFIC OCEAN

PROPOSED BILLS AROUSE THE EAST

Frelinghuysen and Jackson Measures in New Jersey Stir Motorists in Surrounding States to Action—Protests Likely to Result in Compromise at Trenton

New York, Feb. 21—Special telegram—About 700 motorists and half as many opponents gathered at Trenton yesterday to take part in the hearing concerning the Jackson and Frelinghuysen bills. Representatives of the Associated Automobile Clubs of New Jersey and of the Automobile Club of America, the American Automobile Association, and other national and New York and New Jersey organizations were in full force, as were members of various anti-motoring associations in New Jersey. A large number of speakers addressed the committee, including former Senator Charles Reid, of Plainfield; William H. Spear, of Hudson county; Winthrop E. Scarritt, of East Orange; R. V. Lindsbury, of Newark; C. T. Terry, counsel N. A. of A. M., of New York; Edmund Wilson, of Redbank; Edwin R. Walker, of Trenton; Adrian Riker, of Newark; R. C. Betts, of Washington, D. C., and Robert Shaw, of Paterson. These presented various objections to the bills, urging that it would destroy automobiling in the state and impair the value of the \$50,000,000 investment in the state and injure 14,000 owners. Clarence Case, a Somerset county farmer; John Kipp, of Morristown, and State Road Commissioner Hutchinson spoke in favor of drastic legislation.

Other speakers for the bills betrayed much anti-automobile feeling and were extremely radical in their remarks. It is believed the result of the hearing will be that the bills will be short of their most objectionable features and reported to the senate and assembly in much milder and more satisfactory form.

It is reported that the assemblymen and senators have in many instances pledged themselves to their rural constituents to vote for any drastic legislation which may come before them. Therefore the effort of the owners who are fighting the bills are devoted to getting the obnoxious measures killed in committee, in order that the two houses may not get the bills to vote on. Some hope is felt in the fact that several members of the legislature are owners of motor cars.

It is reported that the program of the opposition embraces the introduction of a compromise measure, if it is seen, or seems apparent, that the direct opposition is of no avail. It is reported that the owners' bill has been drawn up and will be introduced if the worst comes to the worst. This substitute will embody the regulations and restrictions by which the automobile interests are willing to abide and will be framed along lines suggested in the annual message of Governor Stokes.

Some idea of the almost insufferable pro-

visions of the New Jersey bill may be gleaned from the following summary sent out by Mr. Sadler: "Some of the unjust and exacting provisions of the bill," recites the circular, "are as follows:

1—Provides for a commissioner and a chief inspector of motor vehicles to be attached to the secretary of state's office, and for as many inspectors as may be necessary, who shall have power of arrest, and who are charged with the duty of detecting violations and obtaining evidence of violations.

2—Gives commissioner authority to authorize chiefs of police to give certificates of registration and licenses to operators, and require all persons operating a vehicle to be licensed.

3—Provides for an examination of all persons before they are licensed to run motor vehicles.

4—The commissioner shall keep a record of his official acts, and shall make an annual report to the governor with recommendations regarding the use of motor vehicles.

5—Provides for an annual registration fee of 50 cents per horsepower for all vehicles and 25 cents per horsepower for all drivers.

6—Provides for a short time tourist registration of \$1 per day.

7—Limits the number of machines to be run under manufacturer's registration to five and the number of days which a person can have a dealer's machine on dealer's registration number to five.

8—Limits the age of drivers to 18 years.

9—Driver's photograph must be attached to his license.

10—Provides that the official numbers on the machine shall be kept clean and free from dust.

11—Provides for a rate of a mile in 7 minutes in built up portions of towns, cities, at crossings of country roads and while passing other vehicles of any kind; elsewhere at the rate of a mile in 3 minutes, but at no time so as to endanger life, limb or property of any person, and no speed regulations shall be held to relieve any driver of the consequences of his negligence.

12—Power to arrest without warrants for any violation.

13—Warrants issued shall be good throughout the state.

14—Any person convicted of violating any of the provisions of the act shall be subject to a fine of not more than \$500 and imprisonment in the county jail for a period of not more than 60 days.

15—Any magistrate may revoke a driver's license, but the commissioner may for good cause restore it.

There is little change in the attitude of the legislative troublemongers at Albany. The discovery that the alleged backing of the Stanley bill by the Automobile Club of America was a hoax pure and simple has not seemed to cause the men who put out the story the slightest twinges of conscience. The publication of the measure in its entirety and the pointing out of a number of little ringers in the bill has done a good deal toward making it unpopular among automobilists. But there is no evidence yet that the motor car owners are contemplating any radical move on the

enemy's breastworks. It is characteristic of the New York automobilists that they are apt to wait until a wrong is almost accomplished to fight it. Heretofore they have been lucky—sometimes. That the laws in effect today in New York state are not more drastic and unjust than they are is no fault of the men who should safeguard the interests of the automobile-owning class. But there is evidence that the New York solons are rapidly becoming learned in the way of the motormaniac and that strong pressure will be needed to keep the state from being included in the list of those who love their fellowmen on wheels not at all.

There will undoubtedly be a hearing on the Stanley bill, but its date has not been made clear to the mass of automobilists interested in the pending legislation.

Senator L'Houmedieu has revised his measure so that the proposed tax is to be levied on weight rather than on horsepower. It is said that the bill now calls for an assessment of 50 cents per 500 pounds, which is much more satisfactory to motor car owners.

Another bill was introduced Saturday in the assembly by Robert J. Cox of Erie. It provides that when an automobilist has been arrested for violation of the law he may give security for his appearance in the form of a bond issued by a surety company. The present law obliges him to give either cash bail or leave his vehicle as security. Whether this proposed provision is offered in the interests of the owners or of the bonding companies is not, at this writing, clear.

CHASERS REST IN MIAMI

Miami, Fla., Feb. 18—The survivors of the circuit chasing bunch sailed into this happy haven of rest last Thursday. Some of them hurried away by that night's trains. Others, too weak to say no to the hospitable insistence of Mine Host Henry Merrill, of the Royal Palm hotel, to stay over a day or two longer, are here yet and today is Sunday.

After experiencing the rigors of the Cuban diet and the eccentric notions of the Havana cup race promoters of what constituted a warm welcome, it was a happy change to get back to the Florida of those good fellows, John Anderson, Joe Price, Fred Sterry and Henry Merrill. And what a memorable meal was that first evening's dinner. Rector, Boldt, Sherry and Delmonico were voted not in it for a minute as compared with Merrill.

Persiflage aside, this Miami is an ideal spot for a rest after the fatigues of show week and the strenuous meet following at Ormond. It is likely to be better known to automobilists and circuit chasers in the future; for plans are on foot to wind up the circuit here next year with a grand tour down the east coast over the new road from Palm Beach. The versatile Morgan also has it in mind to organize a cruise of motor boats as an adjunct to a

power boat race from Palm Beach, ending up with water contests and a carnival here at restful Miami.

Each of Florida's three resorts best known to automobilists has its distinctive features. Ormond has its unparalleled beach; Palm Beach furnishes beautiful Lake Worth and the attractions of the surf-bathing, the band concerts, the Beach Club, the golf links and the gun club; Miami gives one the picturesque keys, the glorious ocean, fishing not excelled in the whole world, and sailing on river and bay and deep water. There is a salt water pool, where the swimmers do stunts on the diving boards and chute while the band plays. There are beautiful drives through the jungle road to Cocoanut Grove and a fine 90-mile stretch of road to Palm Beach. People make less display of dress here than they do at Palm Beach and seem to be here more for real sport than show. Fishing, of course, is the main pleasure pursuit by day. Dozens of launches and auxiliary sail boats leave the dock in the morning, returning in the afternoon with catches running up into the hundreds of king fish, groupers, amberjack, bone fish and what not in the finny line. Hardly a day passes that one or two sharks are not brought in.

In the evening one may tempt the fickle goddess at the club, dance with dozens of pretty girls, swap stories in the handsome grill room Merrill has just added under the south entrance, or enjoy the balm of the evening air on the verandas with the moon lighting up the palms and flowers of the hotel gardens.

CHICAGO'S RECORD

Chicago, Feb. 20—It may be some consolation to the public, the authorities, the motorists and the motorphobia papers of Chicago to know that five fatal automobile accident cases were given to the coroner of Cook county last year for investigation. Of these five cases the coroner's jury discharged those charged with being responsible for deaths in two of the cases and in the other three those charged with being responsible for deaths were held to the grand jury for final investigation. The grand jury in its investigations—which were searching, owing to public feeling, stirred up by a rabid daily press—could find no grounds upon which to hold those charged with being responsible for the deaths and promptly voted no bills and discharged the prisoners. Thus, of the only five cases wherein death resulted from automobile accidents in Chicago during 1905, not a single driver of a motor car was found to be even criminally careless, much less a murderer. In another case, an accident which happened during the automobile show, the driver was held to await the action of the grand jury, but the testimony in this case is so conflicting that it is more than likely the grand jury will dispose of this case as it has disposed of others that have been before it.

KICK ON TOUR ROUTE

Easterners Complain of Having to Start at Buffalo and Run Over the Canadian Roads.

New York, Feb. 20—American Automobile Association matters are attracting a great deal of miscellaneous interest in New York just at present. The election of S. S. Gorham as secretary came as a surprise to most of the automobilists of the east, although the fact that John Farson was slated for the presidency was well known. The withdrawal of A. G. Batchelder as secretary was expected by many who knew of his proposed change of base. Following the Chicago developments came the announcement that the New York headquarters would be retained, and on top of this the settlement of the Vanderbilt race program and announcements regarding the Glidden tour. It is natural that there should be considerable interest in the makeup of the committee and the general program of the association for the ensuing year.

Mr. Batchelder is now looking over the affairs of the association during the intervals allowed in the course of his editorial duties and the work of organization and the supervision of details goes forward pending the arrival of Mr. Gorham, who, it is announced, will be in New York on March 1. The many details to be settled at the March meeting of the directors are the subject of much discussion in the cafes and lunching rooms of the automobiling fraternity.

Foremost in popular interest is the Glidden tour. Many are asking whether the route announced through Canada, Maine and to New York by the Hudson river route, is one actually agreed upon or whether it is tentative. There is considerable objection to the Glidden route. In the first place it is urged that the starting of the tour from Buffalo will result in a scarcity of entries from manufacturers, as most tours have started from New York or Chicago. Whether this will really prove an objection to possible entrants or not remains to be seen. The statement is made that most of the roads covered in the itinerary selected are either only fair or actually bad. In addition to this, the impression has gotten abroad that at some point on the route—it isn't known exactly where—there is a very undesirable ferry situation to be overcome. It is said that at this point in Canada, there is a ferry which can accommodate only one machine at a time and that it takes a half-hour for the boat to make the passage and return. If this is true, it is clear that such accommodations would prove prohibitive.

It is also urged that the time to be consumed in the trip by way of Canada, Maine and the White mountains, Saratoga and the Hudson valley, would be longer than most tourists wish to give to the

trip. It has been suggested that the actual competition for the trophy be limited to a portion of the trip, and that the rest of it, say from Montreal on, be merely a pleasure trip which competitors may make or not as they please.

There are, too, all kinds of gratuitous suggestions regarding classifications, some urging that divisions of classes be made by horsepower and some by cost and some by the cylinder displacement of cars. The Glidden tour commission, which is practically the touring committee of the A. A. A., is likely to consider the plans for these divisions at the meeting to be held in the near future.

The affairs of the racing board are also the subject of much comment. The continued refusal of Chairman Robert Lee Morrell to accept the position again has resulted in a good deal of speculation as to the coming chairman. The statement that H. L. Bowden is to be the new chairman is received with a grain of salt, as it is known that the position was offered to him last year and declined by him. And now there is an intimation that Mr. Morrell may be prevailed upon to accept the appointment for another year. It is known that he is the choice of William K. Vanderbilt, Jr., and this fact is expected to have a great deal of weight with the little chairman.

Apropos of affairs in the racing board, it is stated in the French dailies that Hemery has been whitewashed by the Darracq firm and reinstated as the principal driver for the concern. The affair has considerable interest for American racing men, as it seems to indicate that the French manufacturers do not intend to support the American racing authorities in what they do. Hemery, it is said, made a full confession to his employer, acknowledging that he had been hasty and stubborn but representing that he had been treated with some injustice and not a little bias. The confession was accepted and absolution granted at once. The main question now is: How will the Automobile Club of France look upon the action of the Darracq firm?

TIRE TRIAL COUNT

London, Feb. 8—The tire trials of the automobile club remain exactly as stated last week. There are eleven entries for the competition, which starts on Monday, February 12, and the only official announcement regarding them is that marks will be allotted, and percentage allowed under different headings:

- 1—*a. Reliability*—As shown by freedom from puncture. N. B.—From the 240 bad marks which will be imposed for each puncture or burst 1 per cent will be deducted for every minute occupied in repair or replacement below 60 minutes, 85 per cent.
- b. Durability*—As shown by the running cost per ton mile. N. B.—This cost will be made up as follows: Cost of outer covers used or partly used; cost of inner tubes used or partly used; cost of repairs, 85 per cent.
- 2—*Yield and Return*—As shown by the pile driver, 10 per cent.
- 3—*Other Points*—Detachability, valves, security bolts, etc., 5 per cent.



MOTOR AGE

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JOHN FARSON'S OPPORTUNITY



IF IT is true a new broom sweeps clean, there is some hope that the American Automobile Association will redeem itself during the coming year and earn for itself and its officials a name for doing something in the interest of the vast and growing motoring fraternity—something it has not earned during the past year or more.

It might be a good plan for John Farson and Sidney Gorham, the president and secretary to be, to determine upon a policy that will admit being carried out to the fullest extent, rather than to lay out a program so elaborate as to be beyond the possibility of culmination on the part of two men, or two dozen men interested in motoring for that matter.

The chief trouble with the A. A. A. and like organizations is that they and their officers have undertaken to do too much rather than that they lacked in spirit to do all they laid out to do. There is such a thing as biting off more than one can swallow, and, inelegant as this expression may be, it seems to be the entire trouble with American motoring organizations, big and little.

It cannot be denied that there is ample opportunity for a dozen strong organizations to promote the welfare of motorists; and as long as the organizations that now exist pretend to represent motorists at large, it is reasonable to expect from them something in the line of results, or at least attempts at securing results. The attempts have been as few as the results themselves during the past few years. Precedent in a good many matters has become so fixed that it will take extra effort on the part of the officials to remove the objectionable things that exist and to secure those things that should have been secured but which have not been forthcoming up to the present time.

The new officials of the A. A. A. ought to have the earnest support of every member of the organization, and unless they do they should not be expected to spend their time and energy in promoting the interests of the organization, for it is an unreasonable proposition to expect two men

to produce results in any organization.

Mr. Farson and Mr. Gorham could do no better work than to treat with the officials of the American Motor League with the object of consolidating the two organizations, regardless of the failure to amalgamate these bodies some time ago. Whatever may have been the cause of the failure before should be forgotten in the interest of all that is good in motoring and for motoring. There is no excuse for two bodies—the A. A. A. and the A. M. L. should be one, and if Mr. Farson and Mr. Potter will get together and perfect a consolidation, they will have performed all the work that should be expected of them.

SOUTHERN CIRCUIT FIZZLE



ANY of those who journeyed to Florida and Cuba for the automobile and motor boat races have returned to their homes far from satisfied in any particular, as far as sport is concerned. The

Cuban road race was a flat fizzle, the motor boat races at Palm Beach had few competitors and tame finishes, and the events at Ormond, other than that remarkable time was made, failed to produce that interest and excitement which the average American craves and which he expects after a perusal of program and press stories.

Beach racing has been proved safe, and it has undoubtedly been beneficial to the motor car industry in general and the maker in particular. It has been the means of showing to the world what a wonderful thing the automobile really is; it has determined weak points in automobile construction, just as all other races have; and it has afforded some recreation for a tired lot of newspaper men.

But from the sport point of view the 1906 beach racing was a flat fizzle, there being no competition worthy the name, no exciting finishes, and not even an accident to satiate the lover of real excitement. Cuba's road race petered out entirely, though it had a little touch of realism in an accident that gave the blood-thirsty something to feed on until it proved nothing serious. To call the Cuban road race with its four starters and one finisher an international affair is laughable.



The southern racing of 1905 was miles ahead of that of 1906, yet it was not sufficiently startling to prove a good advertising medium for 1906, and to hold the attendance, much less increase it. On the basis of this year's falling off in attendance, what will be the number of spectators from the north next season? And what of Palm Beach and Cuba next year?

It will require some hard thinking and clever scheming on the part of Senator Morgan and others to muster a handful of northern spectators and rooters for next year's events, and unless something turns up to change the present appearance of things, there will be a decided lack of interest on the part of makers and probably only a few entries.

Those who are foremost in promoting the southern circuit should forget their own desires and invite a conference of those representing all interests, in order that the future of Ormond, Palm Beach and Cuba in relation to motor car and motor boat racing may be determined and a plan laid out that will be given such publicity as to insure a real southern invasion by northern motorists next winter.

It is not enough to satisfy a few racing men, a handful of makers, a bunch of correspondents and photographers and a hotel or two—all motoring interests must be satisfied, must be given something worth going to see and something worth seeing after the journey. To pull the southern circuit through will require a large get-together and harmonious affair. There's almost a year ahead before another meet in the south and it looks possible to have a few of those most interested get together and evolve something that is something—not affairs that come far from satisfying the spectators.

STARTLING ECONOMY FIGURES



THE automobile having disposed of every other mechanical device save the electric car in the speed line, it has now come to the front in the matter of economy in operation. It is recorded that a 16-22-horsepower Berliet car traveled over French roads a distance of 62½ miles, carried four passengers, and consumed only 2 gallons of gasoline, though it maintained a speed of 46 miles an hour.

This information will be consoling to statistician, motorist and maker. The former will find that four passengers were carried each mile for the small sum of .0048 cent per mile and that the cost for fuel for carrying one passenger a mile was only .0012 cent—less than half a cent per mile for four persons, and less than an eighth of a cent per mile for one passenger. These figures are based on the average price of gasoline in America, 15 cents per gallon.

It will afford no consolation to officials of railroad and other common carriers to know that this is but the beginning in the matter of economy, but it will be a tremendous boost for the gasoline motor.



It's a cold day these times when the automobile doesn't figure in most sensational cases.

Washington crossing the Delaware could not have been a more difficult task than Megargel crossing the continent.

Maybe President Roosevelt will be converted now that the automobile played such a prominent part in the Roosevelt-Longworth wedding.

Something must be bothering our trade friends across the water, seeing they are continually stirring up some sort of a rumpus. Possibly they can see Uncle Sam's form hovering around among the automobile buying public.

With the three big shows over, the Ormond meet shelved for another year and the weather warming up a bit since the frost in Cuba, all that remains to talk about is whether or not Chairman Bob Morrell will keep his A. A. A. job. The temptation to stick and run another Vanderbilt cup race is like dangling a bag

JUMP SPARKS

of oats in front of a hungry horse, so it looks as if Mr. Morrell would hold over.

Will Senator Morgan admit he had anything to do with that Cuban road race fiasco?

Who knows but what these open air shows will become in time as popular as revival meetings?

Had the father of his country lived in the year 1906 he would have been enabled to tell a different story about the cherry tree.

"Stung again!" comes the chorus of American newspaper men who visited Cuba. It is not to laugh this time evidently.

France, in granting America the right to handle the 1906 Vanderbilt cup race, sort of discredits the slur cast upon last year's management by our friends in Germany.



EVENTS OF THE WEEK

Cleveland cuts into the show circuit with an exhibition that is ranked among the best seen of the minor affairs; building is handsomely decorated and crowd of 10,000 attends opening night.

Eastern motorists stirred up by proposed legislation in New York and New Jersey; drastic measure in mosquito state cause for considerable comment.

Some of tired southern circuit chasers, on way back from Cuba, stop over for rest at Miami, Fla.

Detroit winds up its show week, reporting a record-breaking attendance and much business done.

Gasoline-electric motor coach starts from New York for San Francisco under its own power.

Philadelphia show arrangements complete and Quakers now await opening Saturday night.

Two big foreign shows are reported—German affair at Berlin and Italian one at Turin.



Now that the offices of the A. A. A. are to stay in New York, President Potter, of the A. M. L., may not have things all his own way down east as he expected.

If George Washington were alive now and a boy again he would doubtless pour water into the gasoline tank of father's automobile instead of chopping down the cherry tree.

Glidden, in his tour of the world, has traveled in twenty-seven countries. One of them was Swat. That must be the land that produces the prize fighters.

Instead of having him look for the north pole Percy Megargel would rather have Walter Wellman go out to Gallup and find the bottom of the New Mexican roads. Megargel can't.

With a Chicago builder constructing a flat building with a garage on each floor, it remains for New York to come to bat with some sort of a landlord who will agree to send out a rig to tow back the disabled cars of his tenants.

THE STREET CAR AS A MAN-KILLER

WHEN an automobile kills a person there is great excitement.

When a horse-drawn carriage kills a person there is less excitement.

When a street car kills a person in Chicago it is accepted as a matter of course.

During the past 12 months 337 people were killed by street cars in Chicago. That is one person for every week-day in the year with twenty-four to fill in half the Sundays.

In the same time twelve persons were killed by horses or horse-drawn vehicles.

During that time the automobile killed only five.

There are 2,100 street cars in Chicago and upwards of 4,000 automobiles.

One person to every six cars was killed during the last 12 months by street cars. One person to every 700 automobiles

It Has the Automobile Distanced in the City of Chicago

owned in Chicago was killed by automobiles.

The street car, then, is 112 times more dangerous than the automobile. Of course the automobile ought not to kill any one, but neither ought the street car.

And when the work of preventing people from being killed by transportation vehicles is taken up first attention should be given to the street car company.

More people are killed by street cars in Chicago than in any other city in the country, with the possible exception of Brooklyn. If the city owned the street cars and the rate of killing continued it would be charged at once that it was be-

cause the cars were run under municipal ownership.

The annual death list made up by the street cars of Chicago is another argument in favor of municipal ownership. If it is not that, it is an indictment at least of the bad management that now curses the street car system of this city.

It is the fashion to denounce the automobile as a man killer. But while you are denouncing the automobile it would be well to extend the indictment to the street cars.

Make the street cars as safe at least as the automobile.

The automobile on this showing is not the man killer that needs the attention of the authorities to the exclusion of the street car. That is clearly evident to the unbiased.—Chicago American.

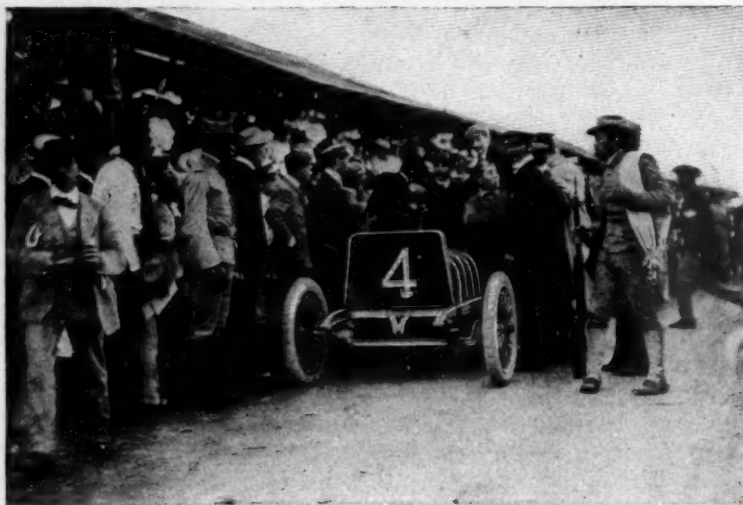
SEASON ON IN TACOMA

Fine Weather Arouses Motorists on Puget Sound—Springlike Conditions Prevail

Tacoma, Wash., Feb. 15—Last week was practically the opening of the automobile season on Puget sound, and while not the first pleasant one of the year, last Sunday was the first on which driving on any but the paved streets was a real pleasure. The temperature in the northwest west of the Cascade mountains is mild the entire year, rarely falling to the freezing point. Now, when the east is in the grasp of the ice king, springlike conditions prevail here. For about 10 days there has been no rain, and the result is that most of the roads are fairly well dried. Sunday was the first when this condition prevailed. Practically every automobile owner took advantage of it, and a great number rented machines at the agencies. The outlook for the automobile business here is the very best. Although the present number of owners is not quite forty, three agencies have already this year taken orders for more than that number. Actual sales have been made which, in view of the present number of owners, is quite startling. The only trouble anticipated is securing delivery of cars early in the spring.

Tacoma has exceptional automobiling opportunities. To the south of the city there are hundreds of miles of prairie roads that are in good condition the entire year, even during the winter rains. But the trouble exists within the city. There are a few miles of street and county road to South Tacoma that is inches deep with mud immediately after a rain. The automobilists have started a campaign looking to paving this with some material that will make it navigable. Last year quite a bit was accomplished in this direction by paving Tacoma avenue with asphalt up to Center street. It is also this street that is the connecting link with the road leading to Mount Tacoma, a proposition that is the pride of the entire city. This has been agitated for months. From the city of Tacoma to the eternal snows of Mount Tacoma is about 60 miles. For about 40 miles this road is in good condition, but it is impossible for automobiles

to get much farther than Eatonville, beyond which is Mashel mountain, across which is a corduroy road. The grade is also bad. It is now proposed to construct a road around this mountain, which will make it possible to ride to the eternal snows. Beyond Alder good roads are provided, as the government has already commenced to construct a highway within the reservation, the boundary of which is about 10 miles from the snows, and which are reached in a region called Paradise valley. During the past week three petitions were presented to the county commissioners, urging them to set aside \$40,-



DEMOGEOT AT THE FINISH—CUBAN ROAD RACE—GRAND STAND AND CROWD

000 for constructing the run around Mashel mountain. The board found it had no such amount at its disposal. It is now proposed that wealthy citizens of the city advance the sum, to be repaid by tax levy. This seems to be favored.

MEGARGEL OUT OF GALLUP

Grants, N. M., Feb. 21—Special telegram—The Reo Mountaineer, after a hard struggle, reached here tonight at 6 o'clock. The roads from Gallup to this point have improved considerably, but the fording of streams is bad. We ought to make Albuquerque by Friday, but progress is slow through the mud.—PERCY F. MEGARGEL.

SELL LIKE HOT CAKES

About 200 Cars are Disposed of at Detroit Show—Record For Attendance Broken

Detroit, Mich., Feb. 19—When the final tooting of the horns ushered out the fifth Detroit automobile show Saturday night, the dealers got together and compared results before going home to take a much-needed rest. There was not one who was not satisfied with the results as affecting him and his line of goods. In all, aside from proving an undoubted stimulant to automobiling in general, the show was productive of probably 200 sales, for which contracts have been clinched. As the majority of the cars sold were of the larger models, a business of something like \$250,000 was done by the retailers, this including the sales to several small state agencies, however. The Detroit show is a mecca for all Michigan, also, and quite a number of the sales of individual cars were to people from Port Huron, Saginaw and elsewhere in the state.

Numerically, the Ford people led, they booking fifty orders for their new four-cylinder run about. The White people sold twenty-five cars, more than half of them the big touring cars, and the Wayne, Northern, Oldsmobile and Pope-Toledo all did especially well. The Packard was sold out locally on the first day of the show.

Aside from setting a new record for sales, the show broke all former attendance marks. Last year's mark of 17,000 people was raised to a round 20,000, and there would have been a still larger record had not the hall been so taxed as to make further attendance an impossibility in the evening sessions.

The automobile show marks for Detroit the practical opening of the season. All the local distributing agencies have doubled their winter staff of employees and from now on till the warm weather passes the work of selling the cars will be on in earnest. Testers from the Detroit factories are flocking to the retail agencies and take positions as salesmen and demonstrators daily.

At the factories there is nothing but work. The Packard people are turning out the big ones as fast as their force can

possibly be pushed. The machinery for the Ford runabouts is being installed in the new factory this week and Henry Ford says there will be a separate machine for every single screw-hole in the cars. The Aerocar people are moving into their new factory now and the office force has been established there for several days. The Cadillac, Queen, Wayne, Reliance, Northern and the rest are all pushing their staffs to make the promised early deliveries.

Several new agencies will be established before March 1 along Jefferson avenue, which now practically monopolizes the automobile retail houses. Nearly all the leading retail agencies have quarters there and the tire and sundry people have to follow suit, of course. The Reliance, Rapid, Paragon and several other firms announce that they will all be in the line very shortly.

Three exceptions to the general rule are in evidence, however, these dealers going into a new garage, especially constructed for the purpose, out Woodward avenue in the heart of the swell residence district. Those firms are the Grant Brothers, handling the Thomas and Buick; William F. V. Newman, with the Welch and the Jackson, and the Standard Automobile Co., James Brady manager, with the Packard, Peerless and Autocar. The new building is a beauty, cement-floored and with communicating archways for use when desired. The contracting firm is having some trouble with the city authorities, who claim that the building encroaches on the street, but this will undoubtedly be settled amicably in the near future.

There was a little dinner Friday night which was attended by the old guard in the trade. Among those present were Louis Block, Ford; Joseph Gilbert, Ed McMasters and H. Firestone, Firestone tires; Joseph Weston, M. & W.; Seneca Lewis, of the show management; Lieutenant W. J. Lawrence, U. S. A.; Roger Smith, Jackson; W. F. Scott, Montana state game warden; H. E. Field and James Gilson, Hartford; C. A. Bachman, Fletcher Hardware Co.; Ezra Kirk, Thomas; C. Cramp, Goodrich; L. C. Burnet, Hartford suspension; M. J. Tansey, International; N. H. Van Sicklen, MOTOR AGE; W. Metzger, Cadillac; Charles Hall, Badger Brass Co.; Walter Yates, Barren Iron Co.; H. A. Githens, A. D. Gates and Fred Castle.

SPACE AT A PREMIUM

Fifty Thousand Feet at Philadelphia Taken—Exhibition Ready for Saturday

Philadelphia, Feb. 19.—Preparations for what will be the most comprehensive display of automobiles and accessories ever held in this city are practically complete, and already the big national export exposition building is filled with the hum of busy workmen putting the huge hall into shape for the show, which will officially

The seventy-six sections into which the floor space was divided was assigned by lot more than a month ago, after fair warning had been given that the demand would exceed the supply, and while a few late comers managed to borrow from the wise virgins or were stowed away in odd corners and passageways, there will be, as usual, several concerns which will "prefer to have individual exhibitions in their own salesrooms."

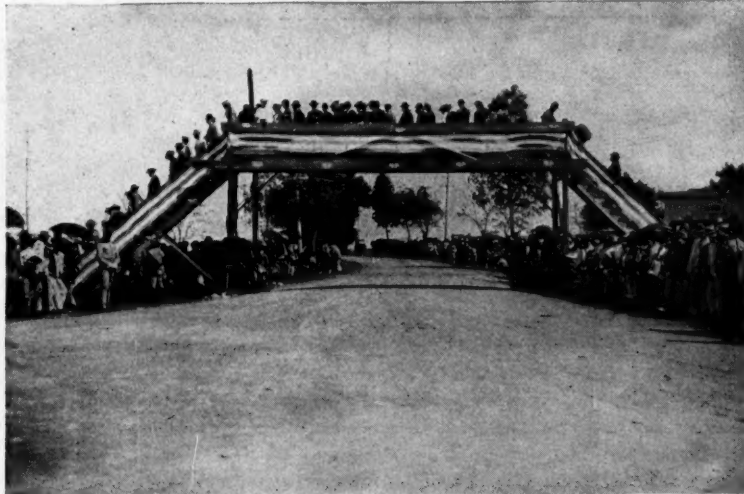
The line-up of exhibitors will include thirty-one concerns exhibiting complete pleasure or commercial motor vehicles, or both. Of these five—the Rainier Co., New York; Napier Motor Car Co. of America, Boston; Mercedes Import Co., New York; Smith & Mabley, New York, and the Mors Automobile Co., New York—have no local representatives, although Smith & Mabley do some Philadelphia business through the Bellevue-Stratford garage. The other twenty-five concerns all have local establishments, and among the cars they will have on exhibition are the Corbin, Stoddard-Dayton, Queen, Locomobile, White, Studebaker, Ford, Haynes, Thomas, Waltham-Orient, Royal, Tourist, Reo, Columbia gasolines and electrics, Buick, Packard, Autocar, Pierce-Arrow, Baker, Cadillac, Rambler, Maxwell, St. Louis, Elmore, Winton, Knox, Jackson, Cleveland, Welch, Glide, Marmon and Chadwick, besides the Iroquois and Halsey trucks and Mitchell delivery wagons in different models.

Thirty concerns will display accessories of all kinds, the exhibits, while not so large, promising to compare favorably with the New York and Chicago shows in point of completeness. Almost every device of merit has its local rep-

resentative, who will boom his special goods, while nearly a dozen out-of-town concerns have arranged for the direct display of their goods as at the big shows.

The majority of the prominent cars will be displayed to better advantage than at the national shows, by reason of the greater amount of space available for each. There will be no crowding on the main floor proper, and ample room has been allowed for the comfortable inspection of all the cars.

Uniform decoration and lighting effects have been provided for by the management. The color scheme will be red and green and promises to be very effective.



STAND BUILT OVER ROAD—CUBAN ROAD RACE—PRESIDENT PALMA IN STAND

open at 8 o'clock Saturday evening. Manager Chester I. Campbell, a Boston importation, evidently knows his business, for not only was the more than 50,000 square feet of available space disposed of long ago, but the manifold details of decoration, lighting, heating, programs, etc., are so far advanced to completion that he promises a finished exposition when the hat drops.

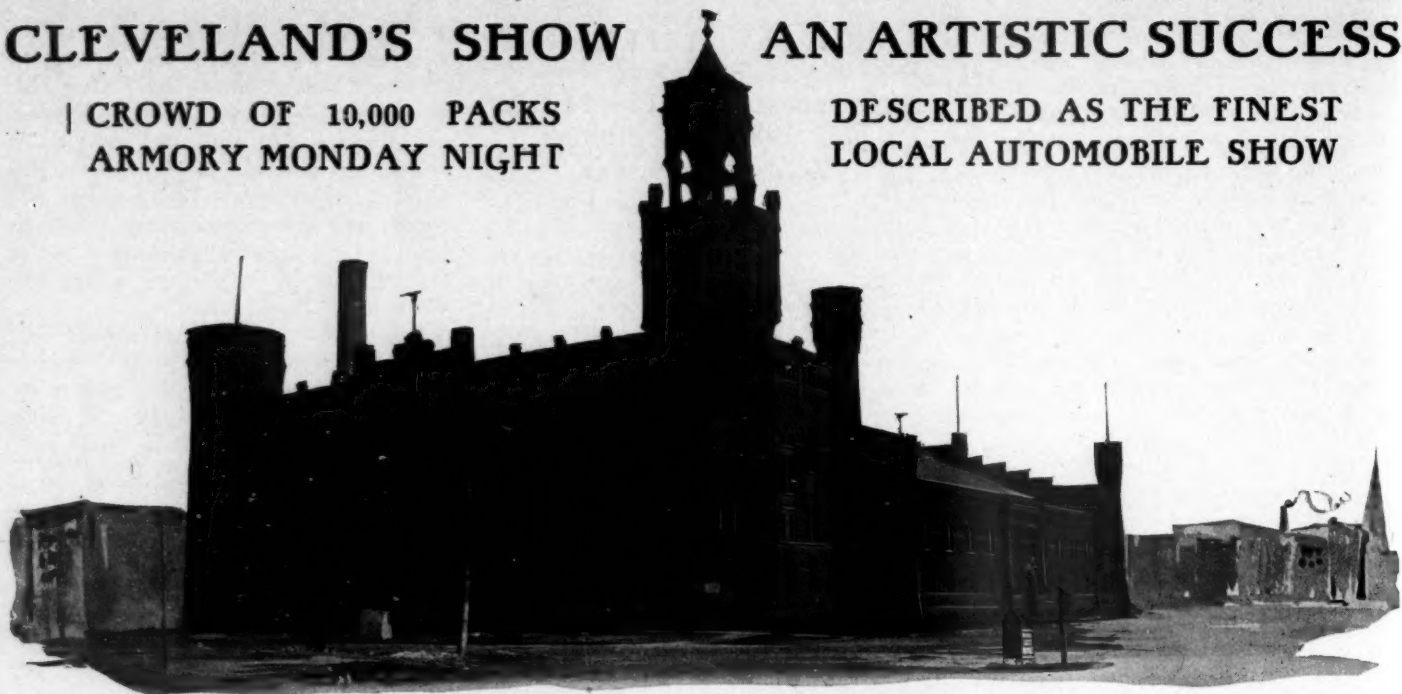
The exhibits, which will include everything from the Baby Reo to huge 5-ton trucks, will be limited only by the size of the building. Manager Campbell has turned down enough applications for space to start a respectable show on the side.

CLEVELAND'S SHOW

| CROWD OF 10,000 PACKS
ARMORY MONDAY NIGHT

AN ARTISTIC SUCCESS

DESCRIBED AS THE FINEST
LOCAL AUTOMOBILE SHOW



CENTRAL ARMORY IN WHICH CLEVELAND SHOW IS BEING HELD

CLEVELAND, O., Feb. 20—"The finest local show ever held," "the most artistic decorations ever seen outside of Madison Square garden," "the most representative show outside of New York and Chicago," "more business than any local show we ever attended."

These and other superlatives are heard on every hand when one asks old timers what they think of the Cleveland show. The lighting scheme is a work of art. The place couldn't be made lighter unless it were set on fire. Six thousand incandescents and more than thirty arc lights generate almost enough warmth to heat the building, so that the management saves in coal what it loses in current. The big ground floor is laid out like a checker board. There are ten spaces 30 by 30 feet and five down the center 30 by 15. There is an aisle 6 feet wide around every exhibit. This unique scheme enables visitors to examine practically every car without entering the space. Over the center of each space is a powerful incandescent in a ground glass globe, and from this to a similar globe on brass posts at each of the four corners are strings of incandescents, making each stand look like a bower of blazing glory. Below each central globe is a neat glass sign bearing the name of the exhibiting company, while on each of the corner globes is the name of the machine exhibited. Around the sides under the balcony are smaller spaces, which serve as auxiliaries to the main exhibits in the central floor, each of the fifteen most prominent dealers being given a central space. The decorations on the balconies and the balcony spaces—occupied by the supply people—

are all in white, while the spaces below the balconies are white and purple. These spaces, as well as the central portion, are brilliantly illuminated with incandescents, while from the roof are the numerous glaring arcs. From the center of the roof is a huge star of red, white and blue bunting outlined by incandescents, while from this are dozens of colored streamers to all parts of the roof. The side walls and balconies are ornamented by the coats of arms of the various states, interspersed with automobile scenes, while backing the large spectators' gallery at one end, are several huge paintings of scenes about Cleveland.

It is truly a representative exhibit of the best products of American makers. High-powered cars, limousines, broughams, and other expensive cars, are in the majority. This city is not a cheap car town, and surprising as it may seem, it is not a commercial vehicle town. Only three commercial rigs are shown, one of them a truck. Of the cars which were never displayed at other shows there are but two. These are Gaeth line of touring cars and the Palmer rope-driven run-

about. Novelties in the supply line are also few and far between. The Ohio Blower Co., Cleveland, has a new line of hoods, fenders and dustguards; the R. E. Brown Co., Cleveland, a line of dash lights and clocks; Charles E. Weaver, Cleveland, the Norwood castor for moving cars about in cleaning, also the Kelly lamp bracket, an adaptation of the famous Kelly bicycle handle bar; the W. D. Strong Co., Cleveland, shows a revolving device used in washing cars; I. Lehman, Cleveland, has a patent universal joint which has been adopted by a number of makers; C. H. Lodder, Cleveland, has a convenient combination wrench; Strong, Carlisle & Hammond, Cleveland, show the Wilkinson oiler; the Homer Commutator Co., Cleveland, an extensive line of timing devices for electric motors; the Ohio Rubber Co., Cleveland, has a fine line of waterproof garments, while E. S. George, of Detroit, has a line of fur garments. Beyond these the lines of supply exhibitors have all been displayed and described at previous shows held in New York and Chicago.

Several of the individual exhibits attract a great deal of attention. The F. B. Stearns Co. has an historical exhibit of deep interest. Side by side in a booth apart from its main exhibit is the first machine built by Frank Stearns, just 10 years ago, and one of the latest 40-horsepower giants of today.

The Cleveland show can boast of one novelty which is probably unparalleled in the history of automobile exhibits. This afternoon a judge of the common pleas court visited the show and held a formal session of the state judiciary. The story is somewhat amusing, and if it was all sim-



GAETH CAR, NEW MODEL SEEN AT CLEVELAND

mered down to the facts it would probably turn out to be a clever advertising dodge worked out in the fertile brain of T. C. Whitcomb, who styles himself the big independent dealer. Whitcomb has the biggest space in the show and one of the most conspicuous exhibits ever seen at any show. One whole space at the side of the hall represents a picture of an Alpine mountain scene, the sides and back painted on canvas, while the center is an open space filled with earth and a Rambler car is apparently about to climb a tremendous grade. Nearly everyone admits it is quite artistic and a novel stunt, but even Whitcomb himself cannot deny that it cuts off the open view of some of the exhibits, and it is not in harmony with the general scheme of plain white and purple background. After it was up the show committee listened to a score of complaints about favoritism, held a council of war, and ordered Whitcomb to take it down. Whitcomb replied by hieing himself to court and securing an injunction restraining the management from interfering with his work of art.

The management spent a good share of the day in court arguing the question, and finally, to settle the matter, the court was moved into an automobile, thence to the armory, and the case was heard. After more arguments the court announced his decision something like this: "The picture is clearly a work of art and does not detract from the surroundings. It is realistic, to say the least, and if that Rambler machine can climb that grade it must be a very superior car. So far as I can see, Mr. Whitcomb's exhibit does not transgress any of the express stipulations of the agreement between exhibitor and management. One of the clauses provides that signs on the side walls shall not be

CLEVELAND SHOW EXHIBITORS

Auto Shop Co.
Central Automobile Co.
Cleveland Motor Car.
Ford Motor Co.
Gaeth Automobile Works.
Hipp, Reitz & Hall.
Holmes-Booth Motor Car Co.
McGeorge Mfg. Co.
R. H. Magoon Motor Car Co.
Harry S. Moore.
Napier Motor Co.
Ohio Motor Car Co.
Royal Motor Car Co.
Palmer Automobile Co.
Price Brothers Carriage Co.
Rauch & Lang Carriage Co.
Reo Motor Car Co.
Standard Automobile Co.
F. B. Stearns Co.
Walker Motor Car Co.
T. C. Whitcomb Automobile Co.
Winton Motor Carriage Co.
Badger Brass Mfg. Co.
S. F. Bowser Co.
R. E. Brown.
W. H. Brown.
Cleveland Tool & Supply Co.

G. A. Collins & Sons.
Collister & Sayle.
Columbia Lubricants Co.
Edmunds & Jones Mfg. Co.
Excelsior Spark Plug Co.
Firestone Tire & Rubber Co.
Edwin S. George.
Gray & Davis.
Hartford Suspension Co.
Homer Commutator Co.
Jones Speedometer.
I. Lehman.
Charles E. Miller.
National Carbon Co.
Never-Miss Spark Plug Co.
Ohio Rubber Co.
Ohio Blower Co.
Oliver Mfg. Co.
Pennsylvania Rubber Co.
C. F. Splittdorf.
Sprague Umbrella Co.
Standard Welding Co.
Strong, Carlisle & Hammond.
Teel Mfg. Co.
Veeder Mfg. Co.
Warner Instrument Co.
Charles E. Weaver.

over certain dimensions, but this can hardly be classed as a sign, as I can see no lettering thereon. However, one other point proves fatal to Mr. Whitcomb's argument. The last clause of the contract provides that where any matter in dispute not covered in this agreement shall be unsatisfactory to the entire show committee, it shall not be permitted to be exhibited in the armory. Clearly, these gentlemen, the show committee, do not have a full appreciation of the beauties of Alpine scenery, and as they insist, this court can take no other course than to dissolve the injunction. Mr. Clerk, you will issue a writ dissolving the injunction forthwith."

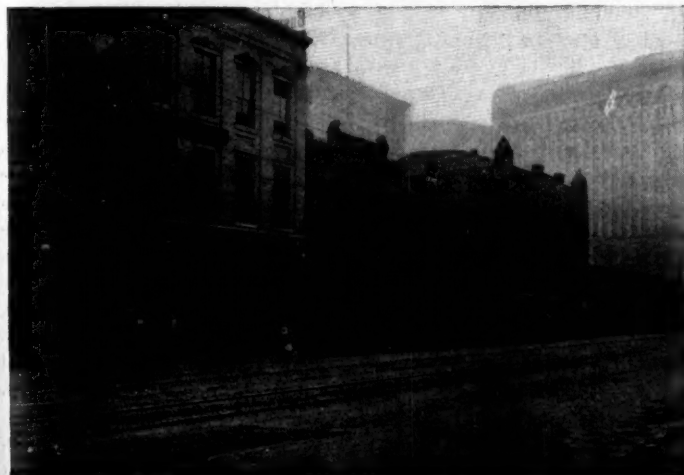
But at this writing the picture still shines forth in all its glory and the show management believes that Whitcomb is in contempt of court, for while he expresses willingness that the picture shall come down, he declines to do the work himself or to order his men to do it. In a word, he has read about Shylock and the pound of flesh. He says to the man-

agement: "The picture is the pride of my heart. You can take it down, but if you injure it I will sue you for damages." Inasmuch as the scene was painted on several pieces of canvas after it was put up, there is small chance of removing it without damaging it considerably, so the matter is up for further conference and perhaps more lawsuits. Meanwhile everyone is telling everyone else about the matter and the picture causes blocked aisles on that side of the house, and Whitcomb is willing to stand more costs if necessary to have the thing go on.

There is talk that the Cleveland material manufacturers may make a bid for the parts makers' show, which is likely to be held next fall. Cleveland is the center of the automobile

parts industry. If such a show is to be held, no better place could be selected. It is understood that New York, Buffalo, Cleveland and Detroit have been spoken of, but Cleveland seems the most desirable for the trade at large. Central armory has demonstrated its ability to take care of a big show and get the people, and in view of the central location of this city, it would seem that all arguments are in favor of none against the selection of this city for such a show.

The organization meeting of the Ohio division of the American Automobile Association, to be held in the rooms of the Cleveland Automobile Club, Thursday of this week, promises to be a most interesting and satisfactory gathering. Replies from all over the state have been received to the invitations sent out by Secretary Marvin, of the Cleveland club. Clubs at Canton, Columbus, Cincinnati, Toledo, Dayton, Lima, Akron and Youngstown have promised to have delegations present at the meeting and there will be individuals present from a large number of



ROW OF SIX AUTOMOBILE STORES ON ERIE STREET



HURON STREET AND ITS MOTOR CAR ESTABLISHMENT

other towns. The meeting will be addressed by A. G. Batchelder, secretary of the A. A. A., who will tell of the work of divisions in other states. There will be several other speakers, who will outline the work of such an organization and make suggestions as to good roads movements. It is probable the headquarters of the state organization will be given to Cleveland, as this city has been almost wholly responsible for the work of organizing the scheme.

One good feature about the Cleveland show is that it is cheap. Although the dealers' association has gone to tremendous expense in time and money in preparing for the show, it is not in it as a money-making proposition. While the outlay is much heavier than formerly, the price per square foot, \$16.40, remains as at previous Cleveland shows.

Fully 10,000 people attended the opening Monday night and the usual quota of free paper was smaller than ever before, it is claimed. The narrow aisles are convenient for looking at exhibits, but they have an unpleasant failing of becoming immovably jammed with a crowd like that of the opening night.

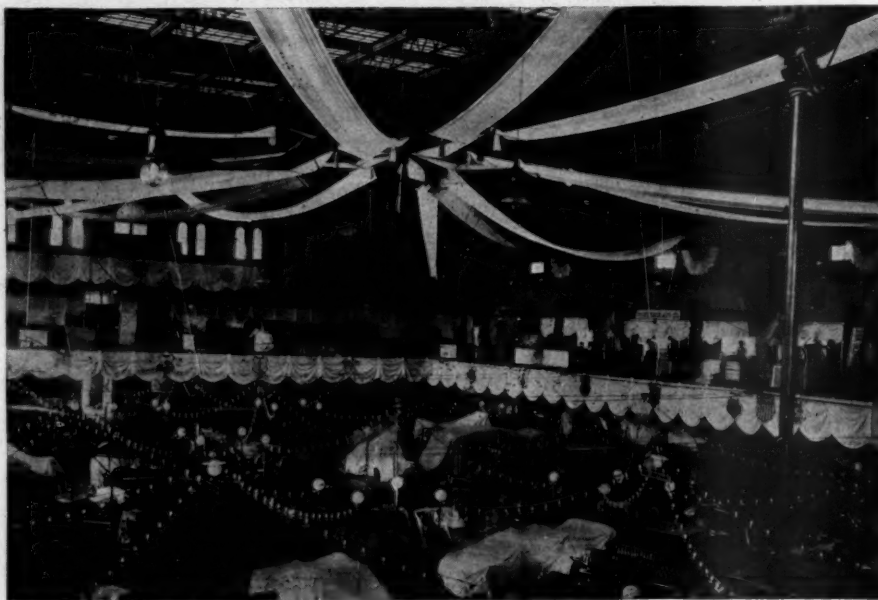
The Palmer Motor Car Co., which has its factory in Ashtabula and headquarters in Cleveland, is showing a light runabout designed to meet a demand for a low-priced car which can be operated by inexperienced hands. It is equipped with rope drive and no gears are used in the entire mechanism. Power is furnished by a single-cylinder vertical two-cycle motor placed in the rear of the body. A driving shaft extends forward beyond the center of the body, and on this are two rope pulleys or sheaves. On the shaft between the sheaves is a sliding clutch, loosely splined on the shaft. On the ends of the clutch are teeth which engage teeth in the sheave. The movement of this clutch furnishes forward and reverse changes. Power is transmitted from these driving sheaves by an endless rope passing around two larger sheave wheels on a jackshaft extending across the frame above the driving shaft. This shaft consists of $1\frac{1}{4}$ -inch solid shaft inside of a seamless tube, and having a sliding fit. One of these larger sheaves is keyed and brazed to the shaft, while the other is loose and serves simply as an idler. On the outer ends of the jackshaft are two sheaves furnishing the speed changes. The inner solid shaft has two lugs on one end

and one on the other which engage in sockets on the sheaves. The movement of this shaft is operated by a hand lever at the side of the seat; movement in one direction gives high speed and in the other the low speed, there being a neutral position between in which neither of the sheaves is engaged. The sliding driving clutch is operated by a foot pedal and it is held in a forward position by a spring. Pressure by the ball of the foot engages the clutch while pressure by the heel gives the reverse. The rear axle is

the cylinder. One novel feature is that the crank is hollow and the gases from the crank chamber are conveyed through this to the exchange ports, through which they enter the upper portion of the cylinder and are exploded. The carburetor is in the intake line and the amount of mixture is varied by a control lever on the steering wheel, which is independent of the spark control. There are two powerful brakes on the rear wheels which are operated by a foot pedal and the operating mechanism is interlocked with that of

the clutch, so that it is impossible to apply the brake without disengaging the clutch. Lubrication is provided for with grease cups on all main bearings, engine lubrication being effected by a force feed lubricator and crank splash. The car is fitted with a neat runabout body, and a feature is that all working mechanism is in the rear, where it is readily accessible, leaving the space under the seat for luggage and stores.

The Gaeth Automobile Co., of Cleveland, shows four gasoline cars which have never been exhibited elsewhere. One of them is



AS THE SHOW APPEARED ON THE OPENING NIGHT

solid and the rear wheels have roller bearings. Bolted to the rear spokes are two sets of sheaves to correspond with those on the jackshaft. One of these is two and one-half times as large as the other, giving the high speed. Provisions have been made for the adjustment of driving cables and sheaves. The main driving shaft has a knuckle joint and the main driving sheaves are all hung in a frame work, which may be given a slight up and down movement by means of a distance rod. The jackshaft may be given a slight lateral movement in the frame, thus tightening the cables to the rear wheels. The differential movement is provided for by rods from the steering mechanism, which gives a slight movement to one side of the jackshaft, allowing the cables at that end to slip in making a turn and returning to the normal position when the car is straightened. The driving pulleys and ropes are lubricated by graphite and are covered. Cooling is provided by a tubular radiator placed under the forward portion of the body, circulation being effected by a positively driven pump on the end of the driving shaft. At the other end of this shaft is the spark timer, which is controlled by a lever from the steering wheel. The engine has no mechanical valves, the various operations being governed by the piston passing over ports in

a light delivery wagon, built to carry a load of about 1,500 pounds, and not designed for high speed. In order to make it as simple as possible to allow for its being handled by inexperienced operators, it has only a single-cylinder horizontal motor. It has a $5\frac{1}{4}$ bore and 7-inch stroke, giving 12 horsepower. Planetary transmission, with two speeds forward and reverse, is furnished. Ignition is by jump spark with dry cells. A positively driven oiler at the side supplies all motor bearings. The engine cylinder is cooled by the thermo-syphon system, no pumps being used. The radiator is in the bonnet. The frame is angle steel with ends formed into spring hangers. The front axle is tubular with forward steering, while the rear axle is solid. All wheels are fitted with roller bearings. The drive is by roller chain to each rear wheel, and the jackshaft runs on roller bearings. The motor is so placed that it is not necessary to move any part of the load of merchandise to make adjustments to the working parts. The space for merchandise is 67 inches long, 44 inches wide and 56 inches high. The Gaeth touring car models are a 20-24-horsepower car, a 30-34-horsepower model and a 50-54-horsepower car. The mechanical features of the three cars are practically identical. Cylinders have $5\frac{1}{4}$ -inch bore and $6\frac{1}{2}$ -inch stroke, and it is claimed

to be the largest car built in Cleveland. No subframe is used, the engine resting on a solid cast bed plate, which is a part of the casing. The inlet valves are automatically operated and are in the center of the heads. The exhaust valves are mechanically operated and are at the left side. The spark plugs screw horizontally into housings for the Y-shaped connections for the intakes. Throttling the engine is accomplished by throttling the carbureter and the lever which regulates the mixture also turns a screw on the inlet valves, which limits the lift on the valve stems, the levers being linked together. The throttle is operated either by a foot pedal or a lever on the steering wheel. The latter may be set for any speed, but the foot pedal returns to low position when there is no pressure upon it. Piston-grinding is done by a special method upon which Mr. Gaeth has applied for a patent. The feature is that the rings are ground with the piston and are held with a special device, making it unnecessary to slip the rings over the piston after grinding. There are four rings on each piston and several oil grooves are provided. The camshaft, two to one gears and valve lifters are entirely inside the crankcase, and all bearing cups and main bearings are cast with oil pockets which fill from the splash. The lower half of the crankcase serves simply as an oil pan and is cast with partitions to insure each crank getting its full share of oil. There is an extension cast integral with the bottom half which houses the steering gear, which is the Brown-Lipe irreversible type. This arrangement is designed to insure lubrication of the steering gear and prevents mud from reaching

it. There is also an extension on the crankcase to which is bolted a sheet aluminum apron protecting the transmission clutch and driving shaft from the dust or mud. Connecting rods are I-section manganese-bronze, and have a babbitt bearing on the crankpin. The bearing on the piston end is clamped to a hollow steel pin which bears in a bronze bushing in the piston. The arrangement gives a large bearing surface for the pin and permits effective lubrication, as the oil is scraped from the cylinder walls into a hollow pin and is led to the bearings. The speed-changing gear is of the sliding type, affording three forward speeds and reverse. Changes are made by a single lever at the right of the car and there is an interlocking device, making it impossible to change gears while the clutch is engaged. The sliding train is on a square shaft and for high speed it engages an internal gear, giving direct drive on this speed. Bronze bearings are used, and they are lubricated by chain oilers. The clutch is the expanding band type, 16 inches in diameter and 2 inches wide, and is engaged by a forward pressure of a foot pedal, and there is heel pedal which releases the clutch. The clutch and brakes are not interconnected and the clutch does not necessarily release when the brakes are set, permitting the use of the motor as an additional brake in descending hills. The propeller shaft is fitted with universal joints at both ends. These are of large diameter with wearing parts hardened. They are encased with leather and packed with grease. The shaft is fitted in the rear with a contracting band brake operating on a drum. The torsion

rod is hung to a cross member of the frame by ball and socket joint which allows of lateral motion. The rear axle is a Timken of the floating type, equipped with roller bearings. The wheels are driven by jaw clutch hub caps, which are keyed to the shaft. A tubular casing of the axle carries the weight of the car. The roller bearings may be adjusted by removing caps on the housings. The front axle is forward steer, tubular design, of large diameter. The front wheels are fitted with adjustable roller bearings. A Kells cooler is used. On the two smaller models the thermo-syphon system is employed, additional water supply being obtained by an auxiliary tank at the top of and back of the cooler. On the 50-horsepower car there is a direct-driven circulating pump. A fan is placed back of the cooler, but it is not attached to the cooler, so that the latter may be removed without touching the fan. Lubrication is effected by a Mason-Kipp lubricator on the running board. It is direct-driven by a belt from the main shaft and its construction is such that no gravity or external pressure is required, oil being forced through four tubes by a plunger pump operated by a gear and eccentric. Each cylinder is direct fed and a constant level is maintained in the crank chamber. The lubricator has a capacity of 3 quarts, and if desired an auxiliary tank is placed beneath the seat and feeds by gravity. Jump spark is used with a Connecticut coil and Herz timer, both dry and storage batteries being used. The timer is placed below the cooler and is driven from the camshaft. The spark control is on the steering column, and it is independent of the throttle control.

WANT INTERNAL REVENUE TAX ON ALCOHOL REMOVED

Washington, D. C., Feb. 19.—Many important industries were represented at the series of hearings before the ways and means committee of the house of representatives last week on the bills before the committee relating to the removal of the internal revenue tax on alcohol used in the arts and industries. An exhaustive statement on the subject was made by Nahum Batchelder, master of the National Grange of the Patrons of Husbandry, who told the committee that one of the industrial uses of alcohol in which many were interested is that of a motor fuel for the internal combustion engines which are coming into such general use. With the increasing use of these engines has arisen, however, the question of the future supply of motor fuel. Owing to the increased demand for gasoline for automobiles and power boats, the cost of this material has steadily increased during the past few years, until it is now selling at more than double its price of 10 years ago. The number of automobiles, power boats and internal combustion farm engines in use is constantly increasing, while the supply of gasoline is decreasing

in proportion to the demand. As practically no gasoline is found in the petroleum obtained in California, Texas and other states from which the largest proportion of American oil supply is secured, and as the production of eastern petroleum is falling off each year, it is evident that in a short time the demand for gasoline will far exceed the supply. It is therefore absolutely necessary that some alternative source of fuel supply should be secured and the only satisfactory substitute which has been named is alcohol.

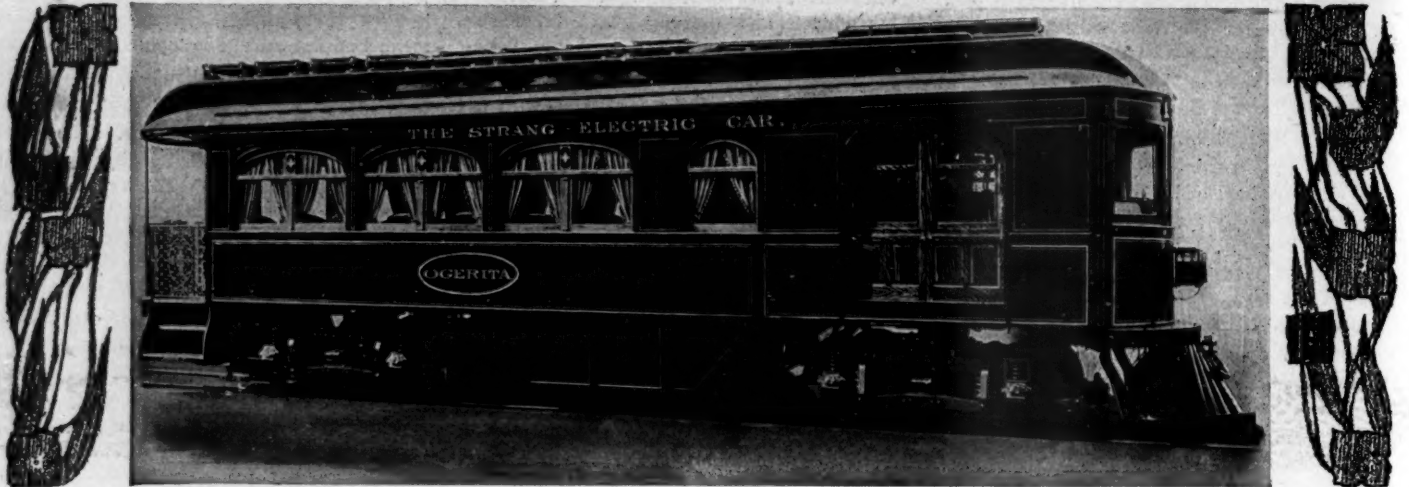
James S. Capen came before the committee as the representative of the board of commerce of Detroit, a body of 1,000 business men, among them being a number of automobile manufacturers. Mr. Capen said in part:

"The phase I wish to present is the tremendous and tremendously increasing use of fluids for explosive or gas engines. There are, of course, no figures to use in comparing alcohol with gasoline or naphtha, as the products of petroleum in one form or another have so far been used exclusively for this purpose, owing solely to the fact that the tax on alcohol

prohibited its use. In engines of this nature Detroit and vicinity produces 50 per cent of the entire output of the United States, and Detroit alone will produce in 1906 enough gas engines for automobile, marine and other uses to consume 200,000 gallons of fuel a day. Now, what are the reasons that it is not just as well to go on using gasoline, and where would we gain by cheapening alcohol in this way so that we could use it? Petroleum, in its refining, produces only 2 per cent of gasoline, and with the demand increasing by leaps and bounds the very scarcity of it has forced up the price far beyond the old price. Alcohol can be produced from any old thing that has sugar or starch in it, and once give our American inventors a chance at a market as great as this, and in a very short time they will have processes that will do away with any fear of scarcity of fuel.

"As a power producer alcohol is about equal to gasoline. It is true that at present there is a little more difficulty in starting an engine with alcohol than with gasoline, but this will soon be overcome once you give engine builders a chance."

GASOLINE-ELECTRIC COACH ON LONG JOURNEY



ON FEBRUARY 19 a transcontinental run from New York to San Francisco—by way of the West Shore, New York Central, Michigan Southern, Rock Island, St. Louis & San Francisco and Southern Pacific—was commenced by a gasoline railway car built by the J. G. Brill Co., of Philadelphia, from plans and specifications furnished by the Strang Electric Railway Co. The run is being made with the avowed intention of testing, over every possible variation in railroad work, the adaptability of gasoline machines for railway uses and particularly passenger railway traffic. The car, fashioned largely on the line of interurban electric cars, has passenger accommodations for forty and a credited speed of 50 miles an hour. Externally and internally modern construction appears at every hand. The passenger compartment resembles the observation car of a limited train with its broad, heavily-curtained windows, upholstered wicker divans, up-to-date electric lighting system and, in short, every luxuriance for the convenience of passenger traffic. Measured from front to rear the car has a total length of 52 feet 9 inches, divided into three parts. The forward one is 14 feet 8 inches long and is used for housing the motor and other operating mechanism. Behind this is the smoking compartment, the entire width of the car and 10 feet 8 inches in length, providing seating for eleven passengers. Back of this, and occupying practically five-eighths of the car body, is the passenger compartment, with divan seats along opposite sides for special traffic or the cross seats with center aisle for the regular passenger service. At the rear is a short, enclosed platform with controller and air brake arrangement, required in running the car backwards.

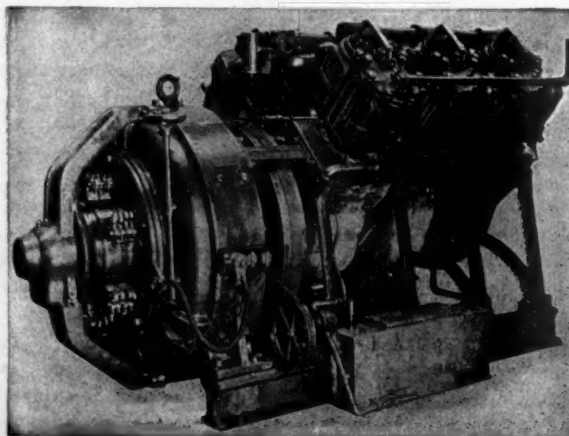
It is essential to understand at once that this car is not an electric automobile mounted on a

pair of railroad trucks and running on a standard gauged railroad track. Rather, it is a combination affair in which the flywheel clutch, sliding gearset, propeller shaft and differential of the automobile are eliminated. In the power plant are five units, including a six-cylinder gasoline engine E, termed the primary mover, meaning the original generator of power. To this is connected a large direct-current generator D, being rigidly connected with the rear end of the crankshaft, a small flywheel separating them. This generator is driven by the gasoline engine and in turn generates electricity, which is conducted to a pair of 50-horsepower electric motors M, geared direct to the axles of the trucks. Beneath the frame work of the car and carried on a cradle is a 112-cell storage battery B, which takes all surplus current furnished by the generator, when the car is coasting and storing this current uses it to assist the generator in supplying the motor with electricity when the car is traveling up steep grades or carrying an overload. The remaining elements are a pair of controllers C for regulating the speed of the motor and a rheostat R.

This combination — gasoline-electric—power plant is necessitated because of the lack of flexibility where a gasoline en-

gine is connected through the flywheel clutch and sliding gear transmission to the driving wheels. In a rail-weight, necessary in order that it may run at speeds approaching a mile a minute, a friction clutch of immense size would be required to give a gradual start to the car and a change speed gearset of enormous strength, as well as many changes in speed would be essential for the variations in traffic. Consequently, instead of this method of changing speeds, the designer has used the flexible electric speed transmission scheme. In it the gasoline engine with the generator runs at approximately a uniform speed and by the use of a series-parallel controller for each electric motor on the car trucks, any changes in speeds desired can be made without perceptible jerk or jar on the car. In this way the multiplicity of spur and bevel gears is eliminated, the enormous loss of power consequent upon their use is obviated, the much additional weight entailed thereby is done away with, and a range of driving speed equal to that of the ordinary street trolley is obtained.

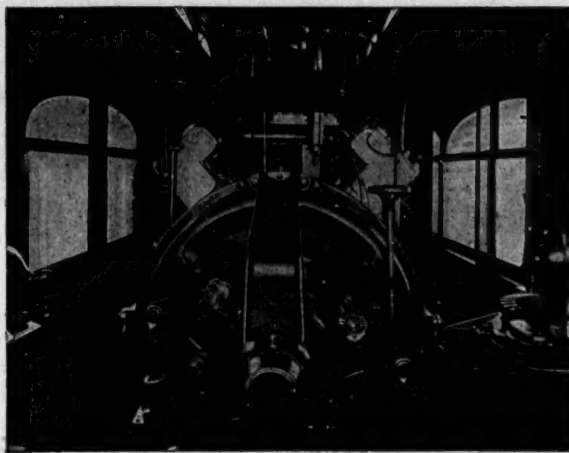
Compared with the electric trolley this gasoline-electric car possesses many meritorious advantages. Those familiar with trolley lines are aware of the electrical connections that must be provided between each rail and of how the rails on opposite sides must be electrically connected. Besides this a line of poles for supporting overhead wires for conducting the current is essential, and to this electric system must be added the ordinary roadbed with its ties and metal track. To keep this outfit in repair at least three gangs of men are needed—one for the roadbed, a second for the overhead electrical system and a third for the electrical systems buried in the roadbed. Consider now the track essentials for the gasoline electric machine. A roadbed is needed, as are ties and rails, but nothing more. Large electric power houses every



SIX-CYLINDER MOTOR AND GENERATOR

25 or 30 miles along the line are not needed, nor are men for operating or caring for these. In short, one man in each car cares for his complete generating and controlling system and the only buildings required are barns for keeping them in running condition, which is necessary also in any trolley system.

Considering in detail the five units in the power and transmission part of the car, the gasoline engine E naturally comes for primary consideration. With its six water-cooled cylinders, each with 8-inch bore and 10-inch stroke, a mammoth gasoline plant is affected. At a conservative estimate the motor of this type operated at 400 revolutions would have a piston speed of approximately 666 feet a minute, which is considered a good average, and at this travel 130 horsepower should be generated. The cylinders are mounted Marmon fashion in sets of three, inclining to each other like the arms of a right angle and mounted in the car in V-fashion. Each cylinder is a separate casting surrounded by a conventional waterjacket, which, instead of being continuous around the cylinder, has large side core openings covered by aluminum plates, the result being an accessible jacket space and lighter construction. Each cylinder has a separate crankcase and the crankshaft, made very large and with long bearings, has a journal between each pair of cylinders. The great strength required in the shaft for cylinders of 8 by 10-inch size is partly made up by the short engine length obtained by mounting the cylinders in the fashion mentioned. A touch of automobile construction is noticed in the valve port for each cylinder, which is on the inner side of the head, and having the large inlet and exhaust valve carried in its bottom, with inspection caps in its head,



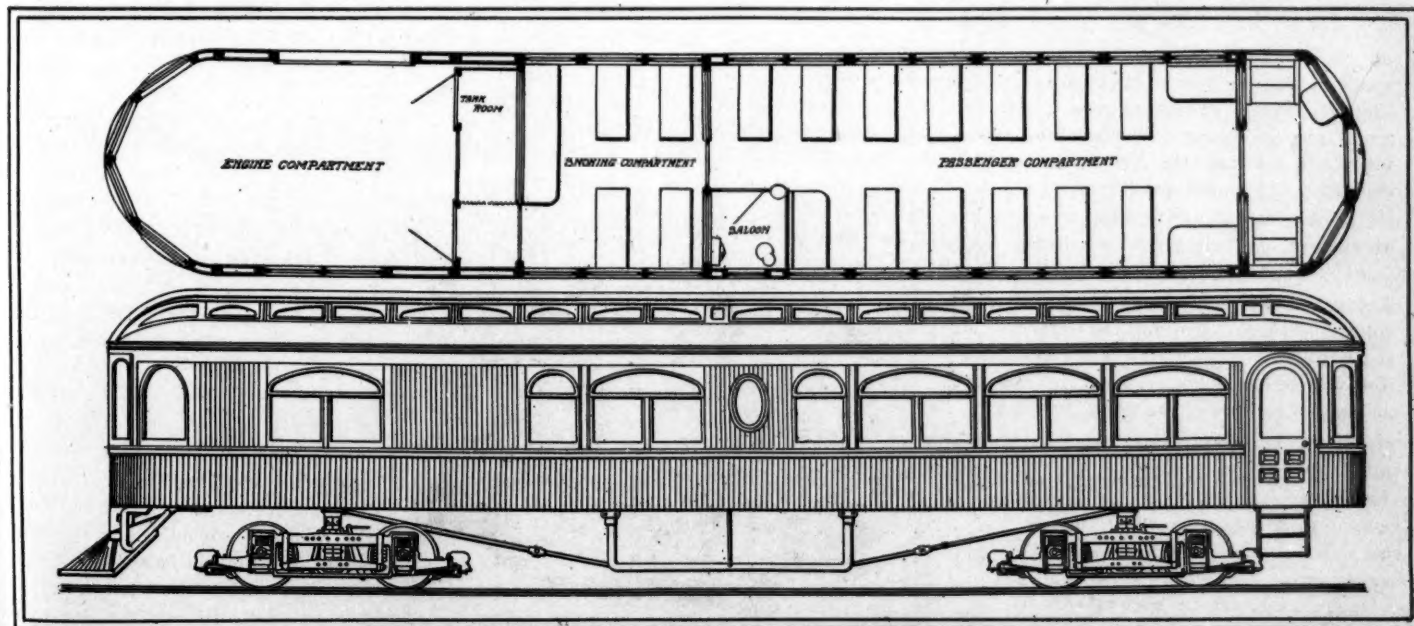
INTERIOR VIEW OF THE POWER PLANT

through which the valves can be removed. In the angle between the opposing sets of cylinders is a conventional camshaft for opening the inlet and exhaust valves and on the forward end of this shaft is a timer. The engine is supported on a cast-steel cradle device with four supporting parts, one between the cylinders and one at either end. To these supports the crankcase and cylinders are bolted and the supports in turn are bolted to a cast-steel framework held rigidly with the frame of the car. In the cooling system a centrifugal water pump is carried on the engine frame at the rear and is driven by belt from the flywheel. The pump draws water from a tank in the center of the vestibule and, delivering it to the jackets, forces it through them and to a coil of radiating pipes carried on the roof of the car, from which the water when cooled returns to the tank. In cold weather the hot water from the jackets is caused to circulate through radiators in the passenger compartment. Experience gained in automobile work has been apparently accepted in lubricating the motor, which has a cubical box oiler carried on

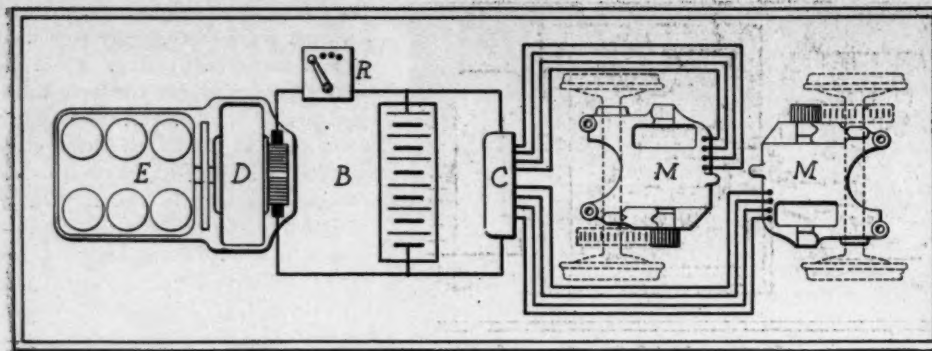
the frame at the right side, with its enclosed pumps driven by rope belt from a crankshaft pulley. From the oiler a separate lead conducts lubricant to each motor bearing and after being used in the bearings the oil is re-collected, filtered and returned to the oil reservoir in the lubricator. In igniting the mixture jump spark system is used. The spark plugs are carried obliquely in the caps over the inlet valve. Current comes from the storage battery and an individual coil is used for each cylinder, and one interrupter sufficing for all can be looked upon as another evidence of motor car design. A carbureter of accepted lines is carried above the cylinders at the rear and

receives its supply by gravity feed from a small overflow cup located slightly above it. The supply for this cup comes from a 100-gallon gasoline tank carried beneath the car floor, a pump being used to convey the gasoline to the overflow cup. The average gasoline consumption is .45 gallon per car mile, giving the car a range of travel of 225 miles for each filling of the gasoline tank. When desired kerosene, alcohol or crude oil can be used in place of gasoline, adjustments of the carbureter being necessary when changes of fuel are made.

The electric generator shown at D in the plan view of the power plant is of the direct current type, with a capacity of 50 kilowatts and a voltage of 250. Like the gasoline engine, it operates at 400 revolutions per minute. It is of the six-pole, series-wound variety. Ordinarily it furnishes current direct to the electric motors M on the car trucks, a controller C and starting rheostat R being in the circuit. Connected in parallel is the battery D with its 112 cells and 200 ampere-hour capacity. Because of operating the dynamo at a 250 voltage instead of 500 the num-



PLAN SECTION AND SIDE VIEW OF THE STRANG GASOLINE-ELECTRIC CAR



UNITS COMPRISING POWER PLANT AND THEIR CONNECTIONS

ber of cells in the battery is reduced. The motors used are of the ordinary 50-horse-power series-wound variety common on electric cars and are geared direct to the truck wheels, which are of rolled steel carried in Brill No. 27-E type high-speed trucks. The controllers used are both of the K-13 type.

The action of the storage battery is best described as being that of an equalizer, taking the current from the generator when the car is not requiring much power and holding it in reserve to be used to assist the generator when a great amount of power is required for a short period. Were it not for this battery, constant variations in the generator and gasoline engine speed would be essential, owing to the varying loads and grades encountered. When running on a level track under ordinary conditions, the current goes directly from the generator to the motors, but on descending a grade it goes to the storage battery. This arrangement is perfectly automatic, not requiring attention on the part of the operator. In order that the storage battery will not become over charged an automatic control scheme is adopted. It is sufficient that a pressure of $2\frac{1}{2}$ volts is required in charging, whereas in discharging the pressure falls to 2 volts. The average voltage supplied to the motors practically corresponds to their rating, and when they are running with light load they go faster in an endeavor to consume the voltage, while with the heavy load the voltage drops, thereby permitting the battery to assist the generator. The engine is provided with automatic governing devices, which are dependent entirely upon the conditions of the battery and the consumption of current, so that there is not the least possibility of an overcharge in the battery. The entire control of the power plant is from a switch board on the left side of the engine compartment. This board carries voltmeter, ammeter, starting rheostat and spark control of the gasoline engine.

QUAKER BUS LINE

An ordinance was introduced into Philadelphia's city council last Thursday to authorize the establishment of a line of electric auto buses on Broad, Market and Diamond streets. The People's Vehicle Co., which is back of the scheme, proposes to start with a capital of \$500,000, to be

increased as the service is extended. The present idea is to begin with one line from the north end of Broad street, south to Market and thence to the ferries, and another connecting line from Broad and Diamond streets to Fairmount park. The ordinance, which does not mention the rate of fares, although it is generally understood that it is to be 5 cents, with free transfer, was introduced by Common Councilman George B. Davis, of the Twenty-fourth ward. David E. Trainer, 405 Walnut street, is the president of the new company, and William A. Gilday, 826 North Thirty-eighth street, secretary.

COMMERCIAL SCHEME

The Universal Motor Co., located at 1 Madison avenue, New York, has just been incorporated with a capital stock of \$500,000 for the purpose of selling and operating commercial trucks for any and all purposes. As explained by Manager Hutchinson, the scheme is as follows: "Our experts have gone over the present commercial vehicles and have recommended to our board the adoption of certain types. Our guarantee will go with such cars as we place. A garage will be opened in each of the large commercial centers where the cars we place can be stored and kept in excellent condition. A corps of experts will go over each one of the cars as it comes in at night and thoroughly tune it up for the following

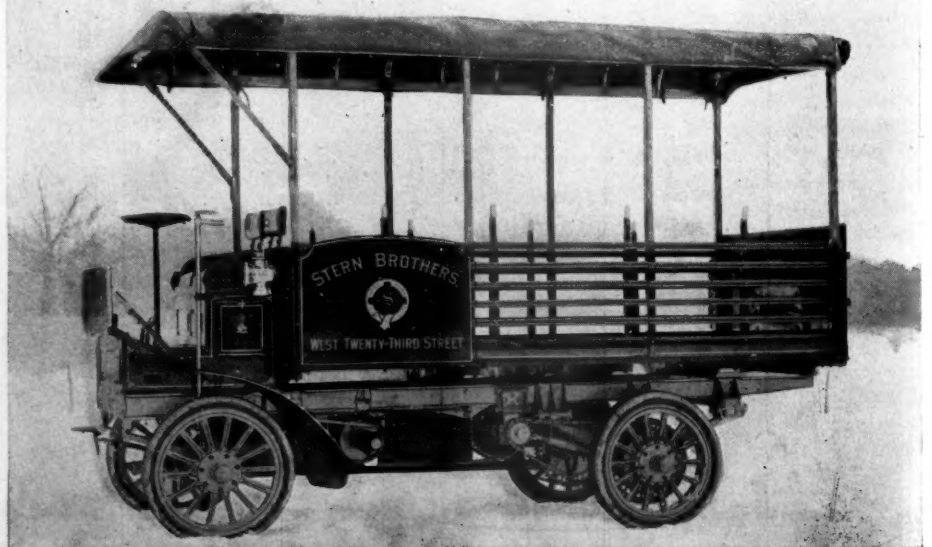
day. The purchaser has nothing of the worry, as we furnish the driver. We will also take contracts to deliver goods and handle the entire trucking end of large commercial businesses. Passengers and freight lines are to be installed throughout such sections of the country as are now covered by the railroads."

INVADING DEPARTMENT STORES

The Knox Automobile Co., of Springfield, Mass., has been conducting a successful invasion of the large department store concerns, introducing many of its big trucks into dry goods houses in several large cities. Toward the end of the last season one was delivered to Stern Bros., dry goods merchants, West Twenty-third street, New York city. Like other 3-ton machines of this class it is intended for heavy drayage between the warehouse and retail store or between the depot and wharf or warehouse. A combined stake and lattice body with canopy top is used. The truck has a speed of 13 miles an hour and a carrying space 5 feet 6 inches wide and 15 feet long.

BUS MOVEMENT IN LONDON

The motor bus movement in London still progresses, but there are a few flies in the ointment. The formation is forecasted of a company with a capitalization of \$2,500,000 under the direction of the concern which operates one of the largest London bus companies, which it is proposed will supply various provincial centers with motor car service on the lines of the Vanguard. This concern is stated to have had fifty motor buses at work for 9 months in London, carrying during that time 7,000,000 passengers with a gross earning of \$210,000. On the strength of these figures the \$5 shares of the Vanguard company now stand close to \$10, and before the effect dies away the flotation is suggested. Some people in London are complaining in this district along with some of the motor bus routes run of great inconvenience from noise and the nuisance created by the plentiful oil droppings.



KNOX TRUCK IN NEW YORK DEPARTMENT STORE SERVICE

GERMAN SHOW OPENS WITH BIG ATTENDANCE

BERLIN, Feb. 3—Three of the big shows of the year opened on the same date—Berlin, Turin and Chicago. Of course the American event has no effect on the European situation, but many regret that there has been a clash of dates over the German and Italian exhibitions, which both had their formal openings today. But one can hardly tell by looking over the affair here that it has any rival, for German, French and Italian makes are well represented. Of course the German makers predominate, but there is a strong sprinkling of French throughout the building, while the Fiat upholds the dignity of Italy. It was a grand opening that took place tonight, marked with all the ceremonies necessary to stamp the affair an international show. Prince Henry had been expected to be present, but owing to court mourning he had to forego this pleasure, although he and his brother, the kaiser, paid an informal visit to the building last night. Royalty not being present the opening was rather quiet, the Duke of Ratibor and General Becker assisting in the ceremony. Many prominent people were in the throng that filled the building tonight, among those noticed being the following: Herr Geheimrat Goldberger, Baron von Brandenstein, Dr. F. Lewin-Stoelpling, Herr Molitor, Herr Vischer, Herr Flinsch, Herr Katsenstein, Duke von Trachenberg, Prince Hohenlohe, Prince Edward Salm-Horstmar, General von Einem, the minister of war; Field Marshal von Hahnke, military governor, Berlin; Prince Hatzfeld and Prince Alexander Solms-Solms.

While the crowd tonight was immense there was considerable complaint of the coldness of the building, which Americans would have called a huge barn. Exhibitors shivered on their stands, while it was noticed that the spectators were not over anxious to take off their wraps. This frigid atmosphere, however, is impossible to avoid, but assurances are given by the management that this will be the last time such conditions will prevail, for next year the club will have its new building and then everything will be serene.

Most prominent among the exhibitors are the three leading German firms—the Mercedes, N. A. G., and the Benz, each one striving to make the finest display. The Adler makes a brave front. Of the French firms, the de Dietrich people have



their Paris exhibit complete. Braiser is here, but his exhibit is a comparatively small one. Delaunay-Belleville and de Dion Bouton are also among those present.

Those who had been at Paris and Olympia were familiar with what the French have to offer, but as a general rule many of the German ideas had not been divulged. It is clearly apparent that most of the makers of the fatherland have not followed the general custom of copying the Mercedes and the prevailing method of transmitting power to the back axle seems to be by shaft drive and a leather-faced cone clutch. A heavy rear axle is used, while the average rating on the machines displayed is not over 20 horsepower. Fault has been found, too, with the wheels and it is pointed out that the spokes used by most of the small makers are decidedly fragile-looking. Two-cylinder motors still continue popular, despite the fact that the French and English are running to four and six. The Germans have devoted considerable attention to the two-cylinder engine and have so perfected it that a car equipped with one runs smoothly indeed.

It is plainly evident that the Germans are conservative, for they cling to the storage battery in preference to the magneto which is so popular with the French and Italians. Germany is not alone in this, though, for the general practice in England and America seems to be the same. Another tendency this year is to lengthen the wheel base and few cars in the show have that stumpy appearance the Germans were formerly addicted to. This lengthening of the chassis, however, is not exaggerated. The mechanically-operated valve has supplanted the automatic inlet valve. It is also noticed that frames made by Krupp are popular, that Poldi springs are used by many and that the Hess-Bright ball bearings, known over here as the D. W. F., are in great demand.

Among the motors the product of Korting, of Hanover, and the Fafner company prevail among the stands.

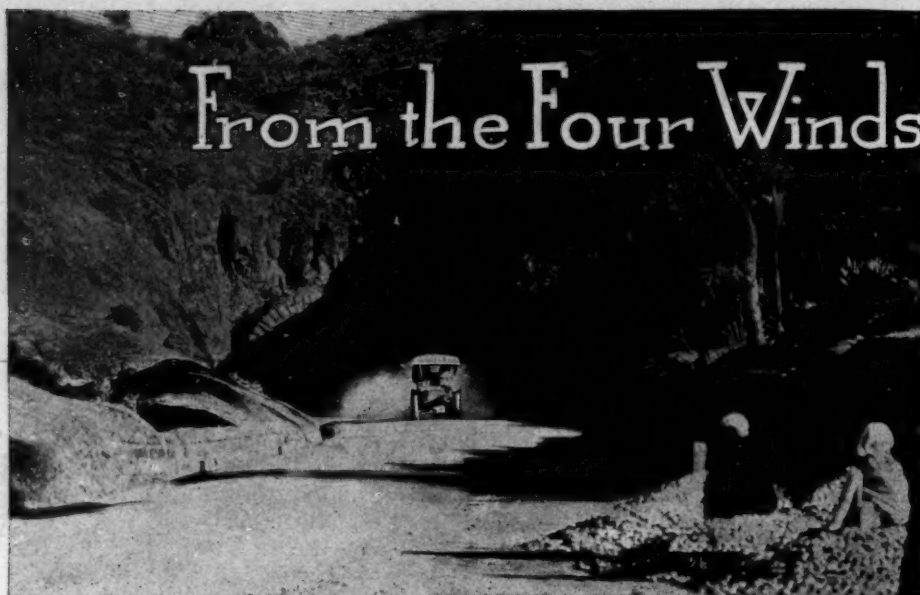
Some of the critics find fault with the body design on the German cars, complaining that the doors are cut too low in the tonneau lines. It is also asserted that these doors generally open in the wrong direction and that the lines are far from being graceful, tending to straight lines instead of the curved ones so admired in French cars. The rear seats are bulky without being comfortable. Limousines, landaulets and coupes also come in for criticism, it being pointed out that they look like open bodies with movable tops. This impression is wrong, though, and gained through the lack of curved lines.

But outside of these fault-findings, which come mostly from the French camp, the show is going to be a success. The attendance starts out well and already the exhibitors are booking orders which seem to be more than satisfactory.

ITALY'S FOURTH SHOW

Turin, Feb. 3—Handicapped in a measure by the zero weather which prevails, the fourth annual Italian automobile show is now on, the opening taking place tonight in the Palace of Fine Arts in the Parco Valentino. There are ninety-four stands in the building and the French industry has given the affair liberal support, despite the fact that the Italians have cut into France's business in this country to an appreciable extent during the last year. It is conceded by the Parisians that in the Fiat and Itala they have foemen who are bothering them a lot and that hereafter they will have to fight to retain their footing in Italy. Turin is already an important factor in the game and it was stated tonight by the president of the show, Marchese Ferrero de Ventimiglia, to the Duke of Genova and the Duke de Abruzzi that in this city alone the makers will be able to turn out 2,000 cars this year. Genova and Abruzzi presided at the opening ceremony. They were received by Marchese Ferrero Ventimiglia and his colleagues. Others present were: Signor Salvarezza, representing the government; Signor Frola, syndic of Turin, and Signor Gasperini, the prefect. After replying to addresses of welcome, Genova and Abruzzi looked over the show.





TUNNEL ON KATRAJ GHAT, ROUTE OF THE INDIAN RELIABILITY TRIALS

Demogeot Connects—Louis Marx, the Cuban motorist, has engaged Demogeot to drive his car in the next Cuban road race.

Economical Running—In Paris recently a 16-22-horsepower Berliet touring car, which won the consumption trials in the Pyrenees tour, went a distance of 62½ miles at an average speed of 46 miles an hour on 2 gallons of gasoline and carrying four people.

To Talk Speed Laws—The directors of the New York State Automobile Association will meet in Syracuse early in March when automobile legislation and several other matters will be discussed. The question of having clubs enforce the laws relating to speed will come up.

Novel Charge Anyway—Oil City, Pa., policemen are under investigation for alleged neglect of duty, one of the charges being "habitually sleeping in automobiles when they should have been patrolling their beats." Whether or not said automobiles belonged to the peace guardians is not made plain.

Climbed by a Cadillac—The automobile has at last conquered the Salisbury crags, which are reached by means of a crooked, narrow, steep and winding highway known as the Radical road. The hill is near Edinburgh, Scotland, and tradition had it that no two-wheeled vehicle had ever climbed it. Charles Jarrott, who recently participated in a non-stop run from London to Edinburgh, heard of this and at once made a trial with his 22-horsepower Crossley. Carrying six passengers and following a soft and slippery road with a gradient 1 in 4 in places, Jarrott went up the corkscrew ascent. Coming down was just as difficult a task. As soon as this feat had been accomplished F. S. Bennett, driving an 8½-horsepower Cadillac, had a shy at the hill. He carried three passengers and then came down a more difficult way—a steep and rocky gradient leading

to Holyrood palace. Both climbs are considered remarkable by those familiar with the hill.

Emil Mercedes Rewarded—The Austrian emperor has awarded the Order of the Iron Crown to E. Mercedes in recognition of his services in the province of motor technics.

Aero Club Entry—Santos Dumont and Albert Lahn have been named by the Aero Club of America as its entry for the Bennett cup race for the race that will be sailed next summer. Lahn is an American now residing in Paris and is the winner of the Figaro cup. Each club is entitled to three representatives, but the American club is content to take chances with the two it has named.

Something New—La Verne W. Noyes, of Chicago, is planning to build a magnificent flat building at Elm street and the Lake Shore drive, with a private garage on each floor and quarters for the chauffeur. These garages will, of course, be in the rear, with an elevator for carrying the automobiles. Each apartment in the building will be fitted up luxuriously with the idea of catching the motorist with money.

Terry Talks—Charles S. Terry, of New York, a professor in the Columbia law college and the attorney for the Licensed Automobile Manufacturers' Association, advocated at the banquet of the Automobile Club of Syracuse, held there Wednesday night, that each automobile club in New York state look after violations of the speed laws. He is the father of the idea of what he called a clearing house for complaints. He believes that if every club had a committee whose express duties should be to look after offenders then all the clubs combined could go to Albany and ask for whatever legislation the automobilists wanted. The automobilists, he said, could hold up as an argument that they were trying to have the

laws obeyed and in this way could get public opinion with them. The banquet was one of the most successful ever held, the attendance being about 100.

Side Slip Trials Off—The Automobile Club de Seine-et-Oise had a scrap with the Automobile Club of France, and in consequence has refused to hold its annual side slip trials this year.

Suggest Segregation—In English trade circles they are talking of the possibility of the entire separation of pleasure vehicles from heavy rigs at the next Olympia show. There is also a strong possibility of there being an entirely distinct show for commercial machines.

Clever Thieves—It is reported from London that four Frenchmen recently stole a 70-horsepower Panhard in Paris and brought it to England to dispose of it. The machine proved a white elephant, for the thieves were dead broke and could not buy gasoline. Finally they dickered with the driver of a motor bus and were towed from Frawley to London, stopping at Hotel Cecil. The bus man demanded his salvage money, but the Frenchmen had to go to the hotel proprietor for the coin. After dinner, accompanied by the hotel man, they went to an auction house and disposed of the Panhard for \$1,250.

Not All Motorphobists—That the daily newspapers are passing up very few chances to secure a share of the automobile trade advertising was emphasized last week when the Philadelphia Record announced its intention of giving away a Rambler car. During the next week's show the Record will publish a coupon upon which contestants for the prize must register a guess as to the total number of such coupons deposited during the week at the publication office and at its booth at the show. The contestant guessing the exact number—or the nearest to that figure—will get the Rambler. The total expenses of this publicity scheme will be nearly \$2,000.

Herkomer Details—As planned now the Herkomer tour will start from Frankfort on June 6, running to Munich that day; June 7 the trip is from Munich to Linz; June 8, Linz to Vienna; June 9, rest in Vienna and exhibition of cars; June 10, Vienna over the Semmering to Klagenfurt; June 11, Klagenfurt to Innsbruck; June 12, Innsbruck to Munich; June 13, exhibition of cars at Munich. The car with the best aggregate points will receive the Herkomer prize, a portrait of the winner painted by Professor von Herkomer and a prize from the city of Munich; the second, third and fourth prizes are \$1,000, \$600 and \$400 respectively. In addition there will be six other prizes of \$200 each. For the Semmering hill-climb run in connection with the tour there are four prizes of \$800, \$400, \$200 and \$200 respectively. The Forstenried park speed trials have three prizes of \$1,000, \$500 and \$200 donated by the late

Clarence Gray Dinsmore. There are four prizes in the *concourse d'elegance*, one of \$400 and three of \$200 each.

Class for Women—The National automobile school, at Carlisle and Oxford streets, Philadelphia, has received so many applications from would-be chaffeuses that it has decided to form a woman's class.

Names Distance—It has been definitely decided by the Automobile Club of France's sport committee, that the race over the Carthe circuit shall be a 2-day affair, the distance to be 750 miles. The clause in the rules requiring a driver and his mechanic to make their own repairs is causing considerable discussion.

Pittsburg Officials—The following officers have been elected to manage the affairs of the Automobile Club of Pittsburg for the ensuing year: George E. Turner, president; W. Linford Smith, first vice-president; W. W. Darley, second vice-president; C. M. Miller, third vice-president; Paul C. Wolff, secretary; George G. Glass, treasurer; E. J. Kent, E. Kneeland and C. C. Matheson, members of board of governors.

Automobile Aided—It is a noteworthy fact that the automobile played an important part in the recent Roosevelt-Longworth wedding at Washington in that the newly wedded couple left the White House in an automobile. It is also remarked that the charivari party that serenaded Mr. and Mrs. Longworth at "Friendship" drove out there in seven automobiles, carrying with them as many bands.

Indian Trials—The Motor Union of India recently held a 4-day reliability test from Bombay to Mahabeshwar and back. The class A event was won by C. Harper in a 20-horsepower Fiat. Class B, in which the Charles Harding trophy was put up, went to F. B. Stewart in a 10-12-horsepower Argyll. The Motor Union of West India shield in class C was captured by Dr. Deane in a 16-20-horsepower Argyll. The challenge cup, in class D, presented by the maharajah of Mysore, was won by M. Sorel in a 40-50-horsepower de Dietrich in which he won the Pyrenees cup.

Club in Camden—On Tuesday last, at a meeting held in Camden, N. J., there was formed the Camden Automobile Club, the first of a number of similar organizations likely to result from the tendency shown by the farming element throughout the state to unduly repress automobilists. The constitution and by-laws were signed by thirty-two members, and half a dozen applications will be acted upon at the next meeting. A feature of the by-laws is the section admitting Philadelphia automobilists to membership on an associate basis. Besides appointing a committee to protest against the Frelinghuysen bill the following officers were elected: Samuel W. Sparks, president; George E. Rhedemyer, vice president; Hiram G. Hallinger, secretary, and John T. Dorrance, treasurer.

MOTERING LITERATURE



Viewed from a standpoint of illustrations the present catalogue of the Haynes Automobile Co., of Kokomo, Ind., is hard to beat. Of the many illustrations one, a motor assembly, showing cylinder, pistons, valves, motor bearings, crankshaft, connecting rod guides, half-time gears and other parts, is a leader, notwithstanding that other assembly views of the clutch, gearset, water-pump, universal joints and bearing groups are given. In the center of the book is a four-page folder containing a large plan photograph of the chassis, with gearbox cover removed and differential housing shown in outline, disclosing all of the gears and bearings. The detailed description of both Haynes models is complete.

In the present Rambler catalogue, issued by Thomas B. Jeffery & Co., a running description of the two-cylinder and four-cylinder models is prefaced by a page view of the factory and interspersed with such car photographs as three surrey types, with other views showing detailed portions of these cars. Following this is a running outline of the four-cylinder models with all of them shown in a two-page group and this supplemented by views of the motor, chassis and gearbox. Each page is headed by a touring scene and footed by a similar design with a floral border running from top to bottom on either side of the page. The printing is in two colors.

"Our Plant and Products" is the name of a large booklet issued by the Standard Roller Bearing Co., of Philadelphia, in the interests of its many styles of bearings for automobile uses. Information on the bearings is not given, but on alternate pages of heavily enameled paper are shown bearings of every style made with a view

of some part of the factory shown on the half page besides the bearings. Antifriction bearings, journal roller bearings, conical roller thrust bearings, automobile axle bearings, automobile axles, hardened and ground bearings sleeves, plain roller thrust bearings and a score of other styles are illustrated. The book is an artistic production.

The Pope-Hartford automobile is the subject of a clever bit of bookwork now being distributed at the show circuit by the Pope Mfg. Co., of Hartford, Conn. On the front cover a male figure, symbolical of manufacture, with a hammer in hand, is offering to the virgin of speed a bevel gear, indicative of careful manufacture, and the virgin holds in her left hand a few links of chain previously received. Views of the car and its many parts are alternated with little woodland or touring scenes embellished with symmetrical designs and borders. A running story on the car and its parts is chaptered off.

Under the title of "The Hyatt Bearing," the maker of this type of roller bearing, the Hyatt Roller Bearing Co., Harrison, N. J., describes its bearing, commenting particularly on the mechanical advantages of them. A long series of line drawings are used to show the exact location of the bearings in rear axles, jackshafts, sliding gear transmissions, front wheel hubs, differentials and truck hubs. Tables of standard sizes are included and so are many commendatory letters from large automobile manufacturers.

In its book entitled the "G & J of To-day," this well-known Hoosier tire concern of Indianapolis prints a running story on its tires, telling how they are made, the materials used and illustrating throughout the method of manufacture. A table of sizes and scale of prices are included, and added to these in the last few pages is a code of directions with illustrations on the attachment and removal of tires.



A CADILLAC CAR AT THE SUMMIT OF SALISBURY CRAGS, SCOTLAND



THE 1906 AIR-COOLED CORBIN CAR



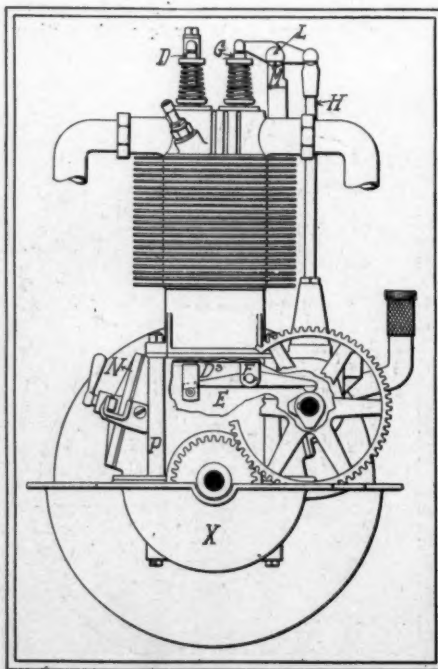
EW makers of air-cooled cars have shown greater care in the manufacture of the many parts constituting the car's make-up than the Corbin Motor Vehicle Corporation, of New Britain, Conn., maker of the Corbin car. At the New York and Chicago shows the finished chassis of this car was the center of much comment by students of air-cooled machines. The concern's line this season comprises two models—E, a large 24-horsepower touring car, and G, a runabout, both machines with the same motor and transmitting plant, the only differences being that the touring car, weighing 1,800 pounds, is a couple of hundred pounds heavier than the runabout, its 100-inch wheel base is 7 inches longer than that of the light vehicles, and the rear springs employed, 50 inches in length, are 5 inches longer than in the runabout car. Comparing for a moment these models with the Corbin cars as made a year ago, several most important changes are noticeable. The first is the use of Hess-Bright and annular ball bearings in practically all parts of the car, the former type now being employed at both ends of the crankshaft and at five points in the gearbox, whereas annular bearings serve in the front road wheels, rear axle and propeller shaft. Plain bearings suffice for the three intermediate journals in the crankshaft, the three camshaft bearings and the shaft carrying the idler in the gearbox. Next to the adoption of ball bearings is the bolting of the gearbox and crankcase together, forming a unit construction and supporting the entire casing from a fore and aft crosspiece of the main frame with the assistance of a metal apron between the case and frame work. Other innovations over the past season are mechanical inlet valves, I-section front axle, synchronized ignition outfit, selective gearbox and new style of universal joints. From front to rear indi-

vidualities in the design of parts are apparent. Interchangeability in the motor parts is evidenced in the fact that, should it be necessary, the inlet valves can be interchanged with the exhausts.

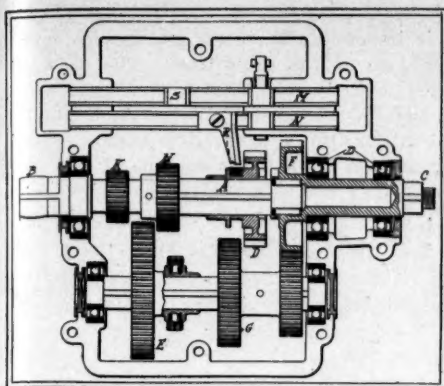
Corbin cooling facilities are unique and in order that as even an expansion as possible can be obtained, the cylinders are machined inside and out, after which twenty-two circular grooves are cut in the outer surface—outside of that portion of the cylinder over which the piston rings travel. These circular grooves receive the cooling members for radiating the heat which take the form of soft iron combs, each stamped and having thirty-six fins corresponding with the teeth of the ordinary hair comb, each tooth being $1\frac{3}{8}$ inch long and having a radiating surface of $\frac{7}{8}$ square inch. A comb is fitted with its back into each groove, the metal being sufficiently soft so that it can be changed

from its straight design as shown in the side section of the motor to a circle corresponding with the outer curvature of the cylinder wall. To hold the combs in these grooves a peening process is adopted in which the metal of the cylinder walls adjacent to the grooves is forced into the grooves, giving the same result as though soldering were used, with the advantage, however, that a uniform metal is had and the danger of melting solder eliminated. With the twenty-two circular comb radiating parts and the exposed cylinder wall, there is a total radiating surface for each cylinder of 1,700 square inches, there being 780 fins or teeth to each cylinder. The cylinder heads are cast integral with the wall and it is interesting to note that the interior of the cylinder head is machined and that the top carries a pair of raised integral circular vertical sleeves which receive the inlet and exhaust cages. On the part of the head not covered by these sleeves are radiating flanges. Cooling is aided by a four-blade fan carried through the support S, and driven by wire rope from the pulley T. Two races of Hess-Bright bearings carry the fan. In order that the cylinder walls may not lose their perfect rotundity of shape under excessive heat, a careful preparation process of the metal is furnished. First the cylinders are subjected to a heat treatment with the object of relieving the castings of all metal strains. This heating process consists of being baked 48 hours in an annealing oven, after which the castings are permitted to cool, gradually being protected against cold draughts of air striking certain parts causing rapid contraction, while in another part of the casting the cooling would be more gradual and so strains would be set up within the metal. After cooling from this process, the interior of the walls and combustion chamber is ground to a finish.

Referring to the end view of the motor and the side view of the same, a few of the engine characteristics are discovered. The 24-horsepower rating is based on normal crankshaft speed, each cylinder having a bore and stroke of $4\frac{1}{4}$ inches. Contrary to custom the crankshaft bearings are not carried in the top half of the crankcase, nor is the bottom half removable for the examination of the connecting rods. This is because the lower half of the crankshaft X is continued to the rear with a flaring portion Y entirely housing the lower half of the flywheel Z. To the end of the part Y is bolted the front of the gearbox, giving a unit construction to both. This unit case is supported fore and aft by dropped crosspieces of the main frame. From the sides of the case to the main frame pieces are sheet metal pans or plates bolted to the frame and also to the crankcase, performing the dual role of lending a stiff support and also excluding mud and dirt from the motor parts. The suspension is not of the three-point variety but has been used with the



END VIEW CORBIN MOTOR

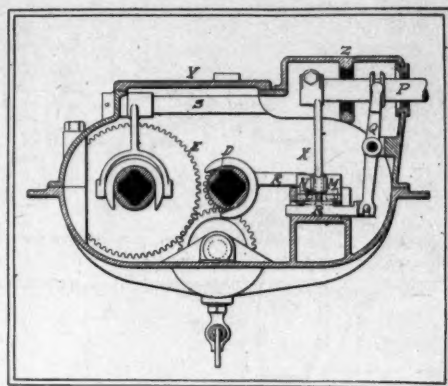


GEARSET USED ON THE CORBIN

object of having the motor and gearbox a rigid unity, thereby eliminating the possible dangers of false alignment of the motor and gearbox shafts. Aluminum is used in this case as well as in the top half of the motor and it is interesting to note, in passing, that in no case are the aluminum castings threaded to receive the bolts for securing the upper and lower halves together. Rather a tubing P through the upper and lower part of the casting receives the long vertical bolt passing through both halves and which takes a nut on the upper and lower end. Because of the bottom half of the crankcase not being removable, a pair of large inspection plates, one of which is shown at N, is used on the right side. The exhaust valve D and inlet valve G are carried side by side in cages in the cylinder heads, the former at the left and the latter opposite. Both being mechanically operated and only one camshaft on the left side being used to operate both sets, calls for a peculiar method of actuation, that for the exhaust valve being shown in both the sections of the motor. The vertical rod D2 rises to the top of the cylinders, not at the right or left, but between the cylinders, and carries on its upper end an arm D1 which rests on the top of the valve stem. The lower end of this rod is yoked at D3, the yoke carrying a roller upon which rests one end of the cross valve rocker E within the crankcase. This rod takes its support from a lug F in the top of the case to which it is pivoted. It has on its other end a rounded under surface bearing upon a cam on the camshaft. Thus, when the cam raises its end of the arm E, the other end within the yoke D3 is forced downward and at the same time the valve D is opened. The rod D2 must be termed a pull rod rather than a lift rod. A more accepted style of construction is in vogue at the inlet valve G. A push rod H rises at the right side of the cylinder and carries a rocker arm pivoted at its upper end, one end of the arm resting on the valve stem. A nice point in construction is noted in that the rocker arm has its hub part a hardened forging, that the pin L on which it rocks is also hardened, but that the yoke support end M carrying the pin is not hard-

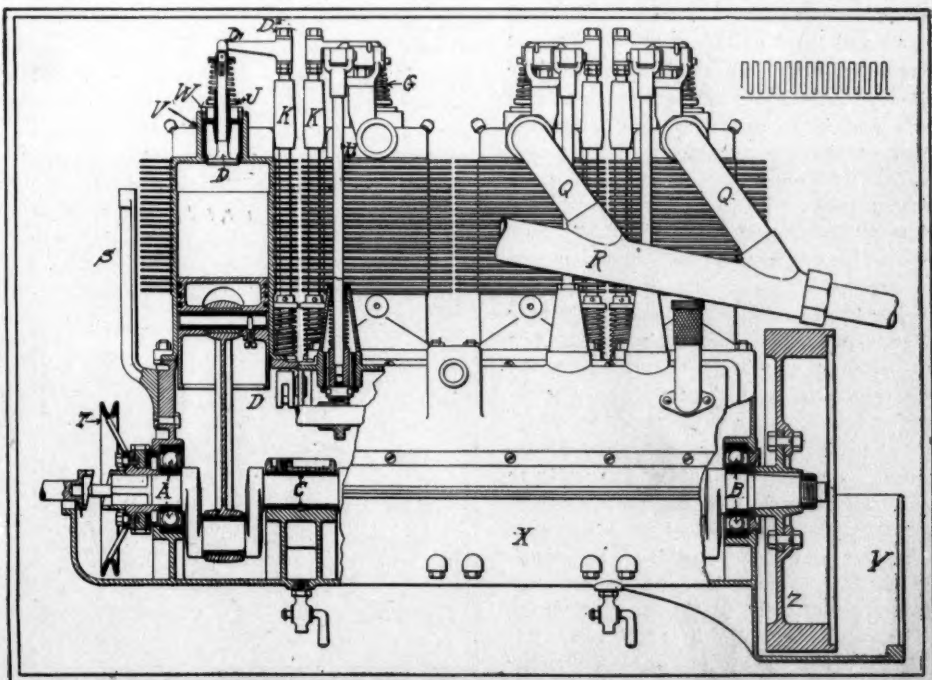
ened. In order that the pin L remain stationary, its head is locked with that of the casing M, making it necessary that the rocker arm takes its bearing on the hardened pin, and not the latter take a bearing on the soft yoke. A similar design is used in the attachment of the rocker arm to the top of the lift rod. Push rods for the exhaust valves pass through long guides K on the cylinder heads and in these guides are renewable hardened bushings. Easy removal of the valve is obtained by having the cages V a ground fit in the cylinder head and securing them therein by a gunmetal ring W threaded into the sleeve part of the head containing the valve cage. Another little point of construction is that the ring piece J supporting the valve spring is raised considerably from the top of the valve case so that it never becomes unduly heated and the temper of the valve spring is not interfered with. Both intake and exhaust pipes are secured to the openings in the cylinder head by gunmetal unions with copper-asbestos gaskets within the unions. In the exhaust piping the pipes Q from the separate cylinders unite with the common pipe R to the muffler at an acute angle so that the exhaust gases, leaving each cylinder, are directed directly toward the muffler and so a back pressure in the other branch pipes is not set up; in fact a vacuum is created in them, thus relieving the exhaust valves of any back pressure. Inlet and exhaust valves are 1 5/8 inches in diameter and are made interchangeable, the former being made, however, from carbon steel forgings, whereas a combination of nickel and steel is used in exhausts. The head and stem of each valve are made in one piece, the former beveled at the usual angle.

As great care in the moving parts within the cylinder has been shown in the

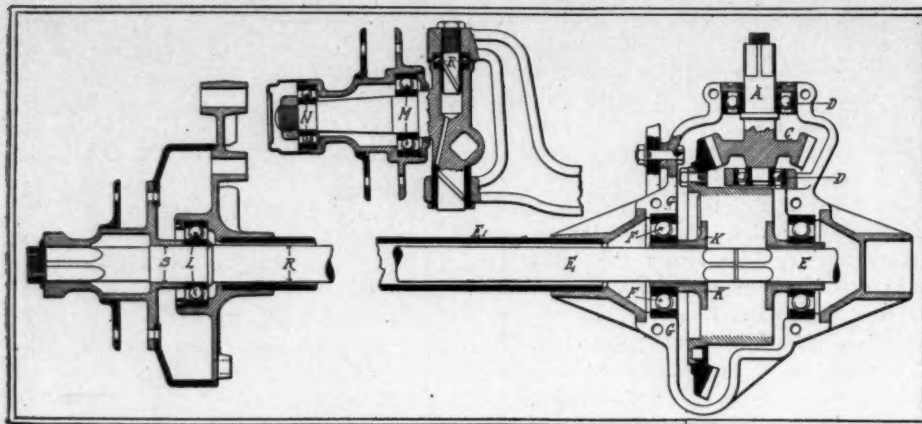


CORBIN GEAR LOCKER

process of manufacture. The crankshaft is carried on five bearings. Two of these, A at the front end and B at the rear, are of Hess-Bright make and the intermediate three,—one shown at C,—are each 3 1/2 inches long and have Parsons' white-brass bearing surfaces. The shaft at the main bearings is 1 1/2 inches in diameter and the bearings at the crankpins are 1 5/8 inches. The maker points with pride to the fact that through its course of manufacture the shaft is never put upon the turning lathe. It is made from a drop-forging of Carpenter's nickel steel from which it is ground to a finished size. On the rear end is a flange 5 1/2 inches in diameter in which the flywheel is bolted, the wheel itself having a 15-inch diameter and 3 1/2-inch face. Connecting rods, drop-forgings made in I-section, are diagonally split at the lower end, with the connecting-rod cap hinged at one side by a 5-16-inch pin, and secured at the other side by a bolt, nut and cotter pin, the bolt being at such an angle that with the inspection plate on the side of the crankcase removed, the nut can be taken off with an ordinary wrench and the connecting rod



SIDE VIEW CORBIN MOTOR, WITH CLUTCH AND ONE CYLINDER IN SECTION



SECTION REAR AXLE DESIGN IN CORBIN CARS

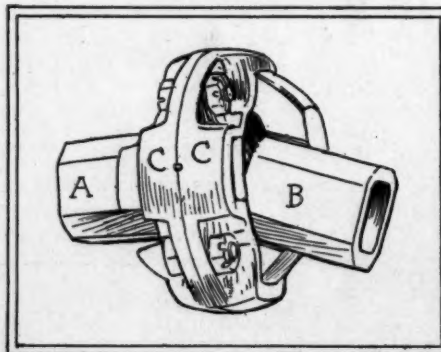
removed. By splitting the end of the rod diagonally the maker claims a continuous bearing surface throughout the entire explosion stroke, the split in the bushings not interfering.

Oiling is by a mechanical lubricator carried on the left side of the motor in front and driven from the front end of the camshaft. The lubricator, of Corbin manufacture, works on the plunger pump principle delivering six feeds, one to each cylinder wall and two to the crankshaft bearings between the first and second and third and fourth cylinders. The leads to these bearings feed into oil reservoirs above the bearings and from these the oil passes through bores in the crankshaft to all crankpin bearings. The central bearing of the crankshaft is oiled from the splash.

Ignition is by jump spark with the spark plugs placed angularly in the cylinder heads on the right. Current comes from storage cells or dry cells and is taken through a single vibrator coil and Corbin commutator to the spark plugs. In order to group the ignition parts as compactly as possible, the commutator is carried on a short cross horizontal shaft between the second and third cylinders at the left and driven by worm off the camshaft. The primary interrupter is carried on this shaft and is so arranged that when the brush of the commutator is making connection with any one of the cylinders primary contact is also taking place. The primary interrupter is such that there are two contacts for every revolution of the crankshaft, assuring at least 2,000 vibrations per minute to the coil vibrator which, however, is greatly increased, five and often ten vibrations occurring for each interruption of the current. The revolving brush of the commutator is a segmental piece which does not make actual contact with the terminals of the wires to the spark plugs but passes very close to them. Mixture is supplied by a Schebler carburetor and control of both the spark and throttle is from levers mounted on a stationary quadrant on the steering wheel.

The clutch is of the inverted cone type with a leather facing and small adjusting shoes beneath the leather, permitting of

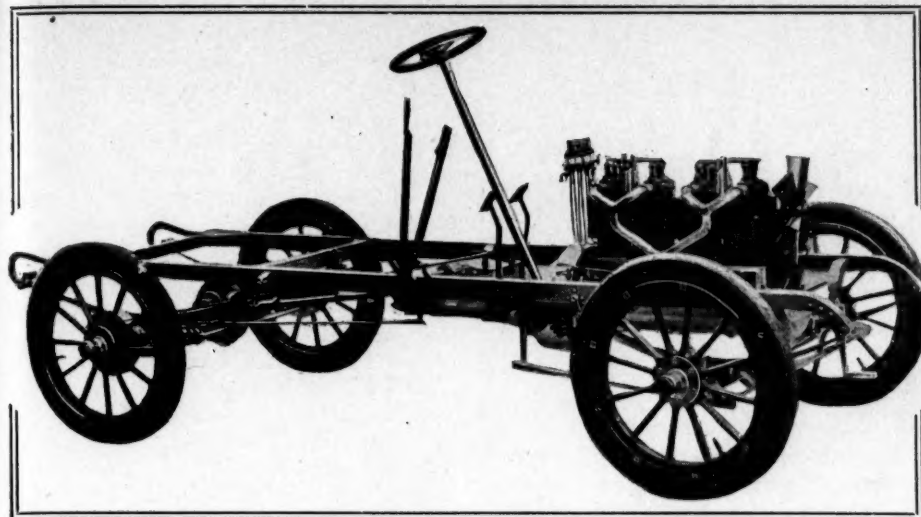
gradual acceleration. The female portion is a cone flange bolted to the flywheel rim and forming a dust-tight compartment containing the male part, which is connected to the shaft to the gearbox. A squared coupling serves to connect the clutchshaft with that to the gearbox, the coupling consisting of two V-shaped pieces 6 inches in length, which when bolted together are clamped to the shaft to the gearbox and provide a sliding fit with the short clutchshaft. The two halves being bolted together permit of the clutch being taken out without dismounting the gearbox. In the gearset which is constructed on the selective principle, careful workmanship is noted throughout. The mainshaft A has a slightly rounded forward end B for the coupling with the clutchshaft giving a union with a slight universal action. To the other end C is secured the universal coupling of the propeller shaft. In all five Hess-Bright bearings are called into service, there being a double set, as shown at D, in the rear end of the case. The gearset, being designed on the selective principle, has two sliding units, a small sliding gear D on the main shaft operated by the yoke arm R and the shifting rod N, and a large gear E on the countershaft operated through the shifting rod M with the yoke arm attached at S. For direct drive the master gear F, made integral with the shaft C, is locked with the gear D; for second speed, gears D and G are brought into mesh; for slow speed, H and E are meshed; and for reverse, E is connected with K through an idler not shown. An



CORBIN UNIVERSAL JOINT

interlocking device is installed by which it is impossible to throw two speeds into operation at the same time. The change speed lever is connected to the outer end of the rod P, on the inner end of which rod is the arm X adapted to engage with a cross slot in the shifting rods M and N. By sliding the shaft P to the right or left, it can be engaged with the rods M and N respectively, but when taken to the right so that the arm X engages with the rod M, the locking arm R is carried to the left through the intermediary of the two-arm lever Q, pivoted at its center to a support on the side of the case. With R carried to the left the shaft N is locked and the other shaft left free for the shifting of the gears. The change speed lever at the right of the driver's seat works in a two-slot quadrant, the same as in any selective system. Care has been shown by scraping the entire inner surface of the gearcase, removing all metal particles which during wear might become loosened and, getting in the lubricant within the case, be ground up by the engaging gears. Accessibility to the gearset, as well as the shifting mechanisms, enclosed in the right side of it, is through a pair of readily removable top plates, one shown at Y and the other at Z, in the end section of the case. In bolting the top and bottom portions of the case together, it can be noted that the bolts pass through tubular parts of the case the same as in the crankcase. Both of the universal joints of the propeller shaft are of the same type, consisting of opposing forks A and B, both drop forgings and made with the forks in the form of semi-circles. Uniting these forks are two annular rings C, with opposing grooves for receiving the forks A and B. These rings are bolted together. The joint has the point of having but four pieces in its construction and not having a central tube or cross; the ring pieces C, of phosphor bronze, replacing these.

In the rear axle construction, one of the noteworthy features is that the short shaft A is made integral with the bevel pinion C, which transmits to the large bevel on the differential, and that this short shaft has annular ball bearings, D, in front and rear of the pinion C. The front end of the shaft A is squared for a sliding fit on the universal joint on the propeller shaft. The axle, of the semi-floating type, has the drive shafts E with a square fit into the differential members, the shafts being $1\frac{1}{4}$ inches in diameter from the differential to past the point marked R, but within the hub of the rear wheel, as indicated at S, this diameter is increased to $1\frac{1}{2}$ inches and bearing directly on the shaft at this increased diameter are the annular bearings L carrying the road wheels. Had these bearings been supported direct on the casing E1 of the axle, a complete floating type of axle would have been effected. It should be noted that the bearings F in the differen-



CHASSIS OF THE NEW CORBIN CAR

tial are located directly between the differential housing G and differential hub K, any weight occasioned by the differential gears thus being taken off the shafts E. The top portion of the housing being removable, it is possible by withdrawing the drive shafts to remove the entire differential bearing from its place. In the same illustration is shown the method of supporting the front road wheels on annular ball bearings M and N, and the further use of similar bearings R in the top of the steering knuckle.

A glance at the running gear shows that the main frame, of pressed steel, has the side pieces parallel throughout, the customary offset at the motor being avoided. Exceptionally long spring hangers of the Mercedes type are required at the rear to permit of using 50-inch springs, which are thrown outside of the frame pieces. Front springs are 38 by 1 3/4 inches. The braking system includes four brakes, all carried on the rear wheels. The regular brakes, of the band type, are lined with camel's hair felt, whereas the emergencies employ expanding bronze shoes working within the drums. The latter, only, release the clutch when applied. Steer-

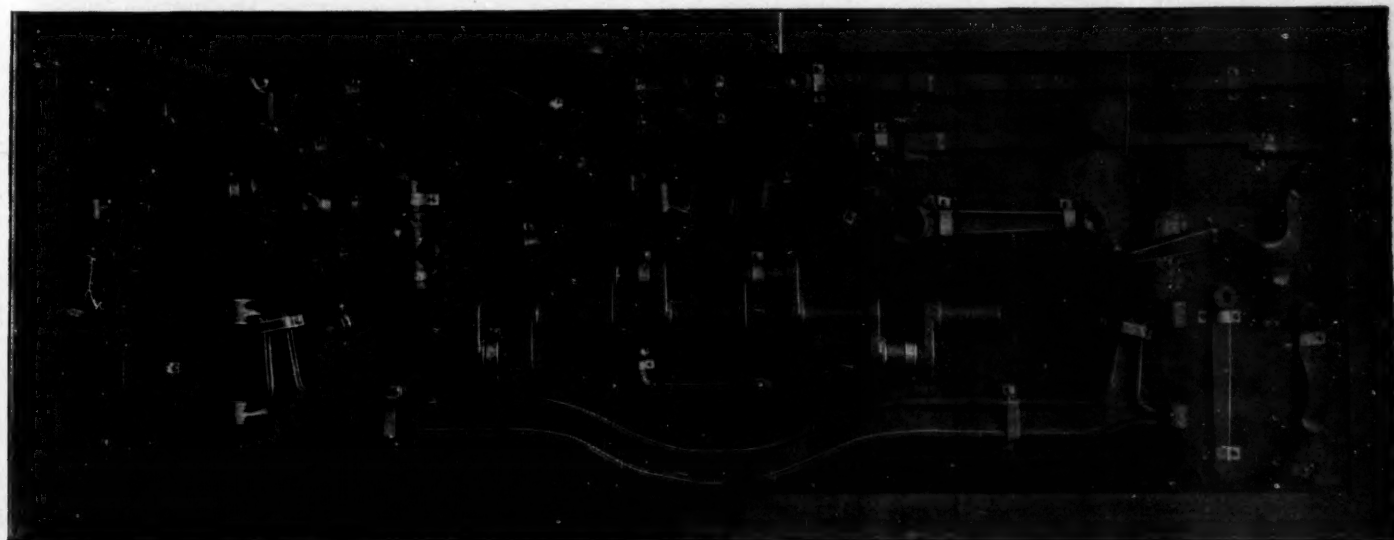
ing is through worm and sector, with the former cut on the Hindley principle, so that three and one-half teeth of the sector are at the same time bearing upon the thread of the worm, the driving strain being distributed instead of coming entirely upon one tooth and one thread. Both worm and sector are of hardened steel and are carried within a bronze housing. In keeping with Corbin practice, both have a squared fit on their respective shafts, as has the arm for connection with the rod to the knuckles. Ball end thrust bearings are used above and below the worm and an adjustment ring at the lower end of the case allows of ready adjustment without removing the housing of the gears. In the steering column are three concentric tubes and a central rod. The outer tube carries the hand wheel; that next to it, stationary at all times, supports the quadrant on which are the spark and throttle levers; within this is a smaller tube having a throttle lever attached to its upper end, and in the center is the rod carrying the spark control lever.

Corbin bodies finished in Corbin green have many points of attraction, notable

among which are the plain bonnet with Whitlock imitation of a cellular cooler forming the front of the bonnet; red upholstery and absence of abnormal body curves at the back seat. In the rear is seating for three adults, the seat cushion being 49 inches in length and very wide. In addition, there is abundance of foot room in the tonneau. As common on the majority of this season's runabouts, the Corbin model G has divided seats and a sloping half-elliptical carrying compartment on the rear platform. The running boards are dispensed with and medium-sized fenders used. The touring car model E has running board connected with small fenders. Tires on both machines are 32 by 3 1/2 inches, the gasoline capacity is 15 gallons, and the usual equipment of three oil lamps, two gas lamps, horn, extra parts, jack and a set of tools is included. Baggage carrying in the large car has been attended to in providing a compartment beneath the rear seat, in which hand grips or spare tire casings can be located. In the line of accessibility of the car parts, it is sufficient to mention the large inspection plates on the right side of the crankcase, the two top plates on the gearbox, removable top half of the differential housing, the gun metal threaded ring securing the valves in their places, and the ability to remove the entire differential gear without disassembling the entire back axle system.

DARMAC'S BALL CONTACT TIMER

Coming from the Darmac Commutator Co., St. Paul, Minn., and having been tested since Thanksgiving day on Ford and Rambler cars, the Darmac commutator, although new in many ways, is beyond the experimental stage and has proven a right to the claims of competency and durability advanced for it by its maker. The commutator is made on the ball contact principle. The revolving axle A is made with its right end hollowed to fit on the end of any standard shaft through the use of a pair of lock

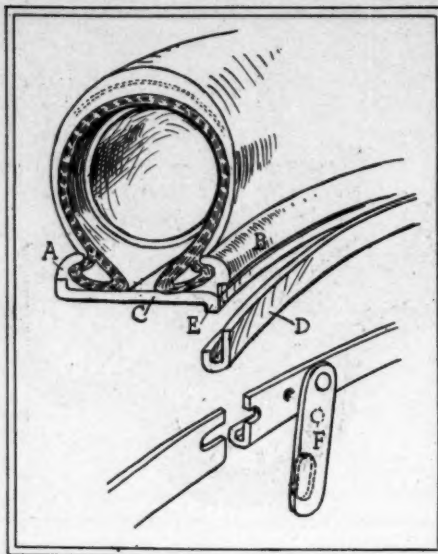


BOARD SHOWING DROP FORGED PARTS USED IN CONSTRUCTION OF CORBIN AIR-COOLED CARS

screws P. This piece has a broad circular flange X, in which is embedded the hardened steel contact block C, held in place in the fiber body part B by a screw sweated in. The stationary portion of the commutator consists of a fiber framework D carrying the four binding posts H, only two of which are shown, however. Near the center of this fiber framework are carried the four balls E, 5/16-inch in diameter, which are contained in horizontal holes of practically the same diameter. Beside the balls are short brass plunger pieces F, against the outer ends of which bear the ends of the flat springs G, the springs serving to hold the balls down so they will contact with the piece C in the revolving part of the device. The outer ends of these springs are curved into C shape, so that by adjusting the terminal nuts H the pressure of the balls on the contact pieces C is varied. To the inner surface of the fiber work D is bolted a dust ring N and outside of the stationary fiber part D is a covering L, the two covering parts making a dustproof commutator. The balls E for making the contact are hardened and, having four bearing points, offer little friction. They are in constant contact with the top of the fiber portion B, except when passing over the contact piece C. After 3 months' use the fiber shows practically no wear where it contacts with the balls. No oil is required in the device except at the bushings K, which are of bronze or brass. The cap piece M is held in place by a central screw and beneath it is a carrying box for a heavy grease.

NEW TIRE DETACHING SCHEME

The Marsh rim, which is the new detachable scheme now being made by the Diamond Rubber Company, of Akron, O., is made in three parts, but with no small parts. The rim proper is attached to the felloe of the wheel; there is a removable outer flange and a locking ring,



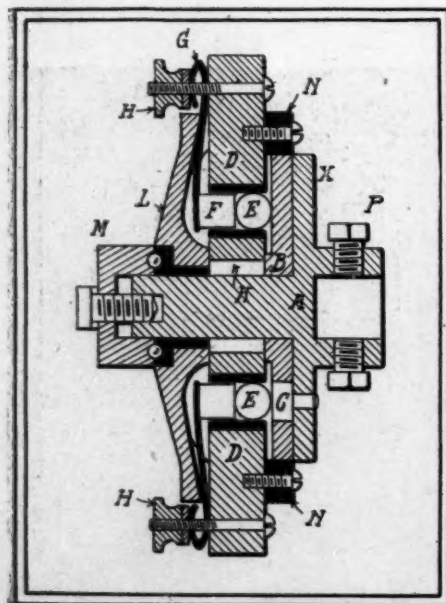
DETAIL OF THE MARSH DETACHABLE RIM

which holds the removable rim in place. The locking rim is U-shaped and is held in place by the expansion of the tire, though a small locking device prevents the joint from opening and permitting the locking ring slipping out of place. As a matter of fact there are two outer flanges, which are interchangeable. One A rests against an outwardly turned edge on the inner side of the rim proper C, and the other B, placed over the rim after the casing is put on, is held in place by the locking ring D, the U-portion of which fits over an inwardly turned edge on the rim, the locking ring springing into place. When the tire is inflated the pressure of the edges of the casing against the flanges tends to lock the ring tightly in place. To make doubly sure that the locking ring shall not become loosened, a little clasp F is provided, so as to lock the ends of the ring together. Staybolts are not used, but as an additional safeguard against creeping the inner tube is fitted with a rubber headed staybolt, which becomes a part of the metal valve stem of the tube and is tightened or loosened with the turning of the locknut on the valve stem. When it is desired to remove the casing the little clasp F on the locking rim is sprung out of engagement with the locking ring end and the end is pressed inwardly, so that the U-portion is disengaged from the outer flange. This permits the flange to be removed readily and the casing then can be slipped off. The other flanged ring can also be slipped off and the rim is left bare. Replacing the casing is accomplished as easily as the removal.

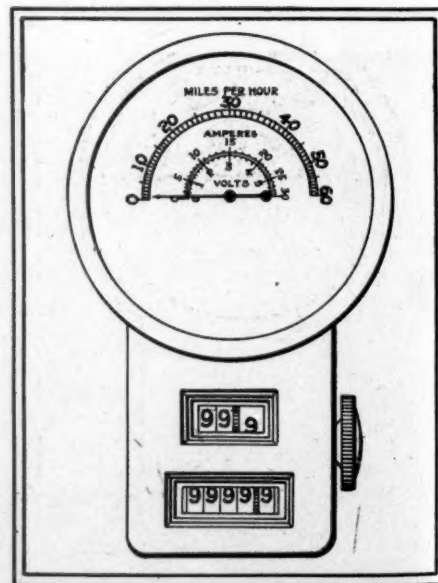
LIPMAN'S SPEED RECORDER

The Lipman speed recorder for use on automobiles is made by Carl E. L. Lipman & Co., Beloit, Wis., and, unlike others of its kind, is an electric device, the speed of the car being estimated by the voltage generated by a miniature electric generator carried on the steering knuckle and driven from the road wheel. It is well known that

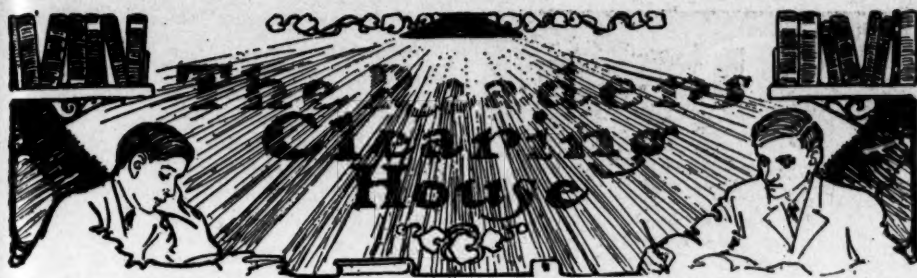
with very small and low voltage generators the voltage is absolutely in proportion to the speed at which the armature revolves, and that if it shows 1 volt when running at a given speed it will indicate 2 volts when the speed is doubled and for each fraction of a volt the variation in speed is proportional. In the Lipman recorder the generator made very small, weighing less than 1 pound, is carried within a dust proof case on the steering knuckle. Its shaft is made of hardened ground steel and runs on ball bearings, thus eliminating friction losses. A heavily insulated wire conveys the current from the generator to a dial on the dash. This dial reads direct in miles per hour and the instrument, which works the dial needle, is nothing more or less than a very sensitive voltmeter, so sensitive that a pressure of less than 1 volt is sufficient for a full sweep of the needle. On the dial are three readings, the figures in each arranged in an upper semi-circle. The outer figures are miles per hour, the middle set amperes generated and the inner, volts. The generator is driven by a gearing from the road wheel. Entirely separate from this speed recording part are two other registers, a trip-registering odometer reading to 100 miles and a season mileage register recording to 10,000 miles. Both are driven by a flexible shaft from one of the road wheels of the car and are arranged to read in miles and tenths. On the right side of the box containing these registering parts is a finger wheel, by means of a couple of turns of which the trip mileage can be returned to 0. For the convenience of those riding in the tonneau of the car, the Lipman concern provides a speed recording dial to be carried on the back of the front seat where it can be readily read by the tonneau passengers. This dial is a duplicate of that on the dash and is operated from the same generator by the addition of a branch wire. The trip and season odometers are located, as shown, beneath the speed-registering dial.



DARNAC BALL-CONTACT TIMER



LIPMAN'S SPEED AND DISTANCE RECORDER



VISCOSITY OF OILS

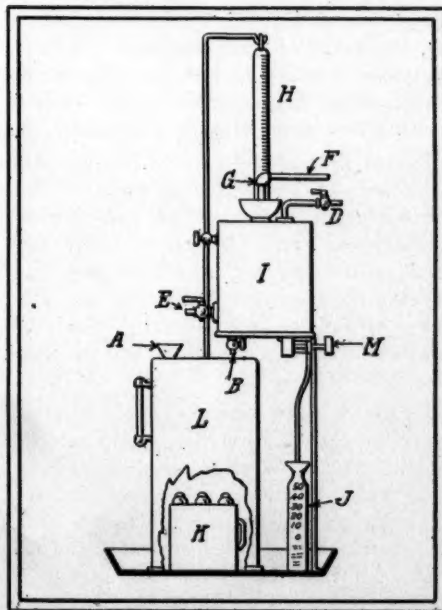
LaPorte, Ind.—Editor MOTOR AGE—Wherein is the trouble in lubricating air-cooled cylinders? Does the temperature rise so high that the oil becomes decomposed and the carbon deposits from the oil sear the cylinder sides and cause too great a friction between the piston and the cylinder walls? As I understand the situation, when the cylinder walls become heated they expand, thus increasing the diameter of the cylinder. When this has taken place the piston becoming heated also expands; but is the expansion of the piston equal to that of the cylinder walls? If so the fit of the piston with the cylinder should be the same at all times, irrespective of differences in temperature. At what temperature do the best grades of cylinder oil decompose, and what effect has cylinder compression on the decomposing point of lubrication oils?—Air-Cooler.

Evanston, Ill.—Editor MOTOR AGE—What is meant by the viscosity, flash point and fire test of cylinder oils for use in gasoline machines? In buying oils how can the viscosity and flash point be determined? Does the viscosity of an oil vary as the temperature of the cylinder increases, and is it possible to have an oil that possesses good lubricating qualities in a cylinder with a working temperature of 500 degrees Fahrenheit which will be practically useless in another where the temperature is 800 degrees?—L. M.

The viscosity of oil is the density of body it contains to prevent the surfaces to which it is applied from coming in contact with each other. It is frequently advantageous to ascertain the viscosity of different oils. The device in the accompanying sketch is manufactured by C. S. Tagliabue especially for this purpose. The viscosity of an oil is found with this apparatus by noticing the number of seconds required for 50 cubic centimeters of oil to pass the open faucet or valve. To test the viscosity of an oil at 212 degrees Fahrenheit with this apparatus, pour water into the boiler through opening A, unscrew safety valve until water gauge shows that the boiler is full, open stopcock B, making a direct connection between the boiler and the upper vessel which surrounds the receptacle in which the oil to be tested is placed, suspend a thermometer so that the bulb will be about $\frac{1}{4}$ inch from the bottom of the oil bath. After carefully straining 70 cubic centimeters of the oil to be tested—which

must be warmed in the case of very heavy oils—pour same into the oil bath. Close stopcocks D and E, screw the extension F with rubber hose attached into the coupling G and let the open end of the hose be immersed in a vessel of water—which will prevent too large a loss of steam—place lamp or Bunsen burner under boiler, screw steel nipple* marked 212 degrees to stopcock M. The apparatus is then ready for use. After steam is generated wait until the thermometer in the oil bath shows a temperature of from 209 to 211 degrees. Then place the 50 cubic centimeter glass under the stopcock M so that the stream of oil strikes the side of the test glass, thereby preventing the forming of air bubbles, and when the thermometer indicates its highest point open the faucet M simultaneously with the starting of the timing watch. When the running oil reaches the 50 cubic centimeter mark in the neck of the test glass the watch is instantly stopped and the number of seconds noted. To ascertain the viscosity multiply the number of seconds by 2 and the result will be the viscosity of the oil. For example, if 50 cubic centimeters of oil runs through in $10\frac{1}{2}$ seconds, the viscosity will then be 203. To test the viscosity of oils at 70 degrees Fahrenheit, screw the nipple marked 70 degrees to faucet M, close stopcock B, closing communication between boiler and upper vessel, also close stop-

*Separate nipples are made for tests at different temperatures.



APPARATUS FOR FINDING VISCOSITY OF OILS

cock E, fill upper vessel through opening G with water at a temperature as near 70 degrees as possible, also having the oil to be tested at the same temperature. Hang the thermometer in position and after stirring the oil thoroughly blow through rubber tube at D to thoroughly mix the water. Should the thermometer show higher or lower than 70 degrees, add cold or warm water until the desired temperature is attained. Then proceed as before stated. An oil suitable for gas engine purposes must have good viscosity and stand a very high flash point, as the temperature in the cylinder rises to about 2,900 degrees. An oil possessing good lubricating qualities working in 500 degrees Fahrenheit would not be suitable for a temperature of 800 degrees. The flash point of oil is determined by putting a vessel filled with oil in a larger vessel surrounding oil bath with water, placing burner under same and heating until a vapor of oil is thrown off which will strike fire by passing a small flame over the top of the vessel. A much better grade of oil is required for air-cooled motors. It must stand higher flash point, as the cylinders are much hotter than those of a water-cooled motor. It is doubtful about the exact expansion of cylinders and pistons. There is some difference, however, as the expansion of the piston is less, due to the fact that there is less metal in the piston to expand. This is where the piston rings perform their duty, in taking up any differences in diameter of cylinder and piston. About the only effect compression has on cylinder oil is the decomposition due to the rise in temperature. All oils are decomposed by the intense heat of the explosion.

MOTOR POWER

Westbrook, Me.—Editor MOTOR AGE—Kindly inform me through your Readers' Clearing House the horsepower that a 4 by 4 two-cylinder engine will develop at 600 revolutions per minute?—F. A. CLOUD-MAN.

The question of power is one that cannot be answered in the direct manner asked, except empirically, and on this basis, assuming 75 pounds' compression at the explosion moment, would give a $2\frac{1}{2}$ horsepower for a four-cycle and 3 horsepower for a two-cycle motor. At the slow speed given, however, everything would have to be in perfect working condition. Increasing the speed will increase the power in nearly direct proportion, but changing dimensions alters the ratio. For instance, increasing the dimensions a quarter increases the power by nearly two, and increasing them by half raises the power a little over three and a third. In order to estimate accurately the horsepower of a gasoline motor it is essential to know the crankshaft speed, cylinder measurements, compression, percentage of mixture, intensity of spark and shape of combustion chamber.



HANDSOME NEW GARAGE OF THE SOUTHERN AUTOMOBILE CO., AT NASHVILLE, TENN.

Graves Changes—B. L. Graves, formerly with the Oldsmobile company, has taken a position with the Amos-Pierce Co.

Franklin's Coast Man—Stephen G. Chapman, formerly with the Franklin company, has taken a position with the Oldsmobile company and will represent it on the Pacific coast.

Jump for Lewis—W. T. Lewis, long connected with the Philadelphia Rambler branch, has been promoted to the management of the Rambler branch in Washington, D. C.

Company Sold—By order of the court, the Charles Kaestner Mfg. Co., maker of automobile parts and engines, at South Bend, Ind., was sold to the mortgage holders last week.

New Quaker Concern—The Park Garage, at Twenty-third and Spring Garden streets, is the latest addition to Philadelphia's rapidly-growing list of automobile storage and repair establishments.

In New Factory—The Deere-Clarke Motor Car Co. is now installed in its new factory at East Moline. It is 100 by 300 feet and the plant covers 13½ acres. There is 30,000 feet of floor space. A testing track, ½ mile in circumference, has also been constructed.

Strike at Allentown—The Mack Brothers Auto Car Co., of Allentown, Pa., has a strike on its hands. Factory Superintendent William Stoltz alleged that the company unduly favored some Swedish machinists recently added to the force of workmen, and walked out, followed by more than a score of other artisans.

Gets Stanley Agency—J. J. Barclay, of Minneapolis, has secured an agency for the Stanley steamer, the fourth agency to be established in the United States. Mr. Barclay was present at the Ormond races when Marriott and the Stanley made their record performance, and he there began the negotiations which have resulted in se-

curing an agency for the Stanley steamer for the northwest.

To Make Batteries—Richard E. Kolbe, who has the Ford agency in Syracuse, is forming a company to manufacture batteries.

Rush Winton Garage—Work has commenced on the erection of the Winton garage at Broadway and Seventieth street, New York city.

Adds Cleveland—The Diamond Motor Co., of Philadelphia, which handles the Jackson car in the Quaker city and contiguous territory, has added the Cleveland to its line.

Smoky City Recruit—The Fort Pitt Automobile Co. has been organized by J. H. Stubbe and A. G. Summerville. Both were formerly connected with the Standard Automobile Co. They have secured the agency for the Stearns and the Locomobile.

Adds to Line—Paul P. Rippien, the Philadelphia representative of Prest-o-Lite, has added the Kilgore shock eliminator, the Schebler carburetor and the Bray acetylene burners to his line, the recent additions to his quarters at 327 North Broad street permitting this expansion.

Cronin Enlarging—John W. Cronin will build an addition to his garage. During the winter he has finished off a large room for a repository. He believes the show room should be apart from the garage and opposes the idea that everybody who professes to want to buy a machine should be allowed to run the car about, soil its newness and then not buy.

De Dietrich Settlement—The de Dietrich American branch, formerly dealing in automobiles at 215 West Forty-eighth street, New York, has made a compromise with its creditors at 50 cents on the dollar, cash, to pay which there was deposited \$35,395 cash in a trust company. The schedules showed liabilities of \$140,974, but the claims filed did not amount to so much,

and the assets were placed at \$46,294.

Allen Out—Walter Allen has severed his connection with the Mercedes Import Co., of New York.

Philadelphia Change—The La Roche Automobile Co., 317-319 North Broad street, Philadelphia, local representative of the Studebaker, has been succeeded by Titman, Leeds & Co.

Michelin in Chicago—Dan Canary, representing the Michelin tires in the west, has opened his headquarters in the Orlando F. Weber Co.'s building at 1322 Michigan avenue, Chicago.

Michelin in Chicago—Fanning & Canary, representing the Michelin tires in the west, have opened their headquarters in the Orlando F. Weber Co.'s building at 1322 Michigan avenue, Chicago.

Price \$300 More—The Soules Motor Car Co., of Grand Rapids, Mich., states that the list on its delivery wagon, advertised in the last issue of MOTOR AGE, is \$1,800 instead of \$1,500.

New Agencies—Two more new agencies have been established in Greater Pittsburg. Edward A. Jenkins, of Wilkinsburg, will handle the Reliance. The Keystone Automobile Co. has the other agency—the Welch car.

Enterprise—The Philadelphia Automobile Trade Association chartered a special train to take upwards of 200 local automobilists to Trenton when the New Jersey senate's judiciary committee sat to hear protests against the Frelinghuysen and Jackson bills.

Renovating Plant—The Reuter Mfg Co., a concern incorporated to build automobiles and motors, is busily engaged in renovating an old doll-baby factory at Pleasantville, N. J., preparatory to installing a lot of machinery. It is expected the plant will be ready for work within a fortnight.

Aurora Deal—Patent, rights and title to the Culver car, invented by Dr. D. D. Culver, of Aurora, Ill., have been transferred to a company consisting of Thomas G. Sager, John Hadsall, Thornton J. Hoover and P. W. Stephens, of Genoa, Ill. The old concern was known as the Practical Automobile Co., and the car is a two-cylinder, air-cooled machine, with big wheels and solid tires.

Detroit Election—The Ford Mfg. Co., of Detroit, Mich., has leased the buildings formerly occupied by the Hayes Mfg. Co., in that city, and will manufacture small automobile engines and automobile parts. The lease is only for 1 year, and if the business proves as successful as the promoters hope, the company will probably erect a building which will be exclusively devoted to this business. The company was incorporated several weeks ago with a capital of \$100,000. The officers are: Henry Ford, president; John F. Dodge, vice-president; James J. Couzens, treasurer, and C. H. Wills, secretary. The above, with John W. Anderson, comprise

the board of directors. H. H. Rackham, C. H. Bennett and H. E. Dodge were the other incorporators.

Neat Idea—The Foss-Hughes Motor Car Co., of Philadelphia, which handles the Cadillac in eastern Pennsylvania and southern New Jersey, has announced to all owners of that car in its territory that it will inspect and readjust all Cadillacs free of charge for a limited time. Appointments will be made with owners in the order in which applications are received.

Omaha's Showing—Thirty-three per cent was the increase for 1905 of the number of automobiles in use in Omaha. One hundred and fifty-five machines are licensed now, fifty of which were purchased last year. Local dealers confidently predict that the number will reach 300 by the end of this year. Already more machines have been sold in January than for any month of the winter season in the history of the local trade. Two new firms started business in Omaha in 1905—the R. R. Kimball Co. and the Rambler Co. Farnam street has become known as automobile row, and within a space of three blocks along it are three new garages, all constructed within the last few months, and one occupied less than 3 weeks ago. They are the homes of the Kimball company, the Powell-Bacon company and the Deright company. The Kimball company, which

has been in its new quarters but 3 months, is already making plans for an increase in floor space. The Rambler company and the H. E. Frederickson company are on another street.

Moves to Des Moines—The Motor Components Mfg. Co., which is removing to Des Moines, Ia., from Middletown, Conn., has secured quarters at 119-121 East Walnut street and is now installing the plant.

Boost for Bates—The retail department of the H. H. Franklin Mfg. Co. will be managed from the factory by George E. Bates, formerly manager of the motor department of Dey Brothers, of Syracuse, who have discontinued their automobile department.

French Jubilant—French makers, who follow the figures relating to American importations of automobiles, are congratulating themselves that during January, 1906, some 136 machines, valued at close on \$500,000, were passed through the port of New York. The figures for the corresponding month of 1905 being but seventy-eight machines, they consider that

the Yankee runabout is not yet a serious competitor of European makes. The Panhard firm especially is rather jubilant over the state of affairs.

Two Additions—The St. Louis Motor Car Co. has opened a Philadelphia branch at 202 North Broad street, incidentally compelling another horse goods house to seek new quarters. The full St. Louis line will be handled. F. P. Young has opened at 1011 Filbert street, Philadelphia, an agency for the Glide car.

Shanks in Florida—Charles B. Shanks, general sales manager of the Winton Motor Carriage Co. and Mrs. Shanks, are passing 3 weeks in Florida and Cuba in order that Mr. Shanks may recover from the effects of a surgical operation necessary to remove a cinder from the Winton man's left eye, picked up at the Chicago show.

Trenton Industry—The Walter Auto-Car Co., of Trenton, N. J., is preparing to build a factory at Trenton. The car to be manufactured is designed by William Walter. The old plant of the Consumers' Brewing Co. will be used as part of the new factory. Another building will likewise be erected. At the present time the Walter autocar is being manufactured in New York. The New York factory will now be abandoned, and work on the new plant begun at once.

KAISER'S GARAGE

Berlin, Feb. 5—Emperor William, who now stands sponsor for the Imperial Automobile Club of Germany, is not satisfied with owning only six automobiles and it is expected that in a short time the royal garage will receive an addition in the way of several more machines of German make. It is no easy task to gain admission to the imperial garage and those who have been fortunate enough to get a peep at the establishment declare it an interesting sight. It is located opposite the royal castle and forms part of the big buildings erected a few years back for William's stable, when the kaiser could see nothing else but horses. Now, however, the equine is neglected by the war lord and automobiles are his hobby.

William has six cars which he uses for the conveyance of passengers. These are located in the royal garage, but in other parts of the building are two motor wagons used for the conveyance of baggage. All the cars are numbered, No. 1 being a car constructed by the Neue Automobile Gesellschaft, a four-cylinder 20-24-horsepower machine, with the body built by Neus & Co., finished in a delicate ivory white picked out in black and fine-lined gold. The under body is finished in dark blue picked out in gold. The furnishings are in shiny claret morocco, with pile carpet on the floor. This rig carries four passengers ordinarily. The brass searchlights are surmounted by massive



KAISER WILHELM AS A MOTORIST

gold crowns, while crowns are painted on the door rails. In place of a number on the rear there is an enormous crown, painted in brilliant colors. While the car is equipped with a horn, the emperor relies upon a bugle blown by his second chauffeur to warn the pedestrians of his coming. No. 2 is the Mercedes once owned by the late Clarence G. Dinsmore and which was bought by the kaiser, who, however, does not like it as well as he does some of the others because of the long wheel base which makes it awkward to handle. The car is finished in ivory white, blue and gold and is trimmed with bright claret morocco. William's favorite is No. 3, a four-cylinder 40-45-horsepower Fiat, in which he once covered 200 miles in 3 hours 27 minutes. However, the royal owner has not the speed bug, being

HOUSES SIX CARS

content with a moderate pace. This Fiat is painted in claret, picked out black and fine-lined gold, but it will shortly be repainted in the rolay colors. It is a coupe limousine, with the inside upholstered in shiny brown morocco. No. 4 is a Mercedes-Daimler double tonneau, with a motor developing 28-32 horsepower. It is generally used by the emperor's suite. No. 5 is a Mercedes-Daimler coupe limousine, 40-45 horsepower, which, however, is marked for retirement, an exact duplicate having been ordered by the emperor.

Seven chauffeurs are used to look after the imperial cars, Oberwagenmeister Schmidt and F. Werner being at the head. The latter, it will be remembered, drove in international road races for the late Mr. Dinsmore and upon the death of the American enthusiast Werner entered the service of the kaiser. Schmidt has been wearing royal livery for the last 2 years, ever since William took up with motoring, in fact. These chauffeurs wear a special uniform made of brown cloth, decorated with broad gold braid. The black Prussian eagle is prominently embroidered on the livery, while on the right shoulder is an epaulet and on the right sleeve a badge, both worked in red and gold. The men wear knickerbockers and top boots. The garage itself is in keeping with what one would expect in such a place, being equipped with turning lathes, boring machines, vises, etc., of the latest make.

LEGAL LIGHTS AND SIDE LIGHTS



DISTRICT AGAINST SIMS BILL

Closely following Representative Sims' bitter attack on automobilists in the house of representatives, the district commissioners, to whom was referred his bill regulating automobiles in this city, gave a hearing to the Automobile Club of Washington in order to get the members' views on the pending legislation. They heard enough to warrant them in intimating that the Sims bill is dead so far as they are concerned. The commissioners' chambers were packed with automobilists when the hearing opened. The principal argument against the bill was made by W. C. Duvall, president of the Automobile Club of Washington. In a carefully prepared statement he pointed out the pernicious features of the bill, the enactment of which would do more to prohibit automobiling in the District of Columbia than could possibly be imagined. Among other things, the speaker said:

"Both the public and the automobilists as a body understand the existing regulations. They were promulgated after a great deal of thought and labor; their validity was attacked in the courts and by the courts sustained. So far as I am aware, there has never been an accident to a pedestrian that any more rigorous regulations could possibly have avoided. To my mind, instead of every municipality and state enacting conflicting laws, there should be a general federal legislation on the subject, and the licenses issued by any state should be fully recognized in any sister state. It has been hinted that horsemen are instrumental in having these obnoxious laws enacted. Statistics prove that horses in incompetent hands are even more dangerous than automobiles. The number of accidents caused by horses are admittedly greater than those caused by automobiles, and greater in proportion.

"It is evident that the framer of the bill we are considering does not understand the automobile from a mechanical point of view, or else he cares little for unnecessary damage done to this very valuable piece of personal property. If he did he would know that to

reduce the speed of an automobile at every intersecting street could only tend to wear to wear one of the most vital parts of the machine."

Mr. Duval made emphatic protest against the penalties imposed by the Sims bill, one provision being for mandatory imprisonment for not less than 10 days nor more than 1 year for a second violation within 1 year. He said that to imprison a man for such a thing without leaving it to the discretion of the judge would work the greatest injustice to the community and would strike a death-blow to automobiling in Washington.

As a substitute for the Sims bill, President Duvall submitted a draft of a measure patterned after the ideas of the automobilists of Washington. Among other things it provides for speed regulations on certain streets during certain hours, making the regulations more equitable. Fines of not less than \$1 nor more than \$20 for the first offense are provided, and fines of not less than \$5 nor more than \$50, with imprisonment not exceeding 30 days, at the discretion of the judge, are provided for second offenses within a period of 6 months. This bill met with instant favor and the commissioners stated it would receive careful consideration.

KENTUCKIANS ACT

The house committee on railroads of the Kentucky legislature has decided to report favorably Frazier's bill to require automobilists to take out license in every county which they traverse, although Ed. Croan showed to the committee the utter absurdity of such a measure. The bill will practically prevent any automobilist from traversing Kentucky, and is a notification to people living outside of the state that they must not come to Kentucky in automobiles.

EXCUSES DO NOT GO

Indiana's supreme court has just decided that it is no excuse that a motorist is too much engaged in running his car to look out for horse-drawn rigs on the public highway. The case at issue was taken up from Whitley county. In the accident in point, Mrs. Susan Orner was hurt and a judgment of \$2,500 was awarded her. The court says:

"It is only when an automobile is run

at a time or manner or under circumstances inconsistent with a proper regard for the rights of others that the use of such a machine as a means of transportation on a public highway is unlawful or the basis of an action in tort.

"The driver of an automobile was guilty of actionable negligence who ran his machine at the rate of 15 miles an hour into the faces of a team of horses on the highway, without checking or stopping until within 20 feet, and thereby caused them to run away, when he could see that they were plunging with fright at his approach from the time he was 300 feet away.

"It is no excuse for the failure of such automobile drivers to observe that horses on the highway are frightened, and for the failure to stop or check his speed that all of his attention was taken with the management of the automobile and observance of the team."

WANTS PLENTY OF NOISE

Two bills of interest to automobilists were up for hearing before the legislative committee on roads and bridges of the Massachusetts legislature last week, being the first of the measures concerning motor vehicles now before that committee which have been considered publicly. They were the bill of Representative Thomas W. Williams, of Attleboro, to prevent the placing of nails, glass and other dangerous articles in public ways and places; and that of Representative Jacob H. Mock, of Jamaica Plain, requiring that every automobile and motor cycle be equipped with a bell or gong to sound or strike at every revolution of the wheels, the style of bell to be approved by the highway commission. B. D. Barker, of Boston, said that he had figured that with a 32-inch automobile wheel the gong would ring 155 times a minute if the car was going 15 miles an hour. This statement aroused considerable interest and undoubtedly scored a point for motoring. The hearings on both bills were closed.

BAD CASE OF MOTORPHOBIA

An idea of just what the automobilist who travels in New Jersey is up against may be had from a letter published in the Philadelphia Record, which urges the legislature to bar automobiles from country roads at night, owing to the difficulty of detecting and apprehending a driver in case of accident. "Otherwise," continues the letter, "let the law compel the owners of automobiles to maintain a fund, out of which the damages resulting from automobile accidents may be adjusted in cases where identification is impossible and where the motor car is responsible; where the automobilist is not at fault, the state should be held responsible for enacting a law legalizing manslaughter. . . . In fact, automobiles should have special roads of their own, where they could go at a high rate of speed unmolested."



BRIEF BUSINESS ANNOUNCEMENTS

Bay City, Mich.—The Smalley Motor Co. is preparing to run two crews daily.

New York—The Panhard-Levassor Co. will occupy its Broadway salesroom and garage about March 1.

Buffalo—The Electric Vehicle Co., of Hartford, Conn., is negotiating for an agency in Buffalo and, failing to secure it, will open a branch store here.

Newark, N. J.—The repair shop and garage of Astler & Janes will soon receive a new outfit of machinery, which will enable them to engage in repair work.

Wapakoneta, O.—The G. C. Schemmel Auto Garage has contracted for a new building 50 by 80 feet with accommodations for twelve touring cars and six runabouts.

Memphis, Tenn.—Frank C. Blomberg & Co. have opened an automobile establishment at 352 Madison street and will carry the White, Thomas Flyer, Buick and Baker electric.

New York—The new salesrooms for the Majestic Automobile Co., the agent for the Queen car, were opened on February 10. They are located at Broadway and Fifty-fourth street.

La Porte, Ind.—John Wolf, Alex. Lindgren and Martin Weber constitute a new company recently formed here. They have arranged for the construction of a new garage, and have secured the agency for the Buick.

Newark, N. J.—C. W. Oathout, of the Essex Automobile Co., has been made eastern agent for the Jackson, and has secured the services of H. D. Wolcott, formerly with the Motor Car Co. of New Jersey, who will represent the Jackson this year.

Milwaukee—Charles O. Welch has secured a building permit for a \$40,000 building at Seventh street and Grand avenue. It is to be a four-story structure, the first floor to be occupied as an automobile garage by the Welch-Estberg Co., and the rest of the building to be devoted to office purposes.

Oxford, N. J.—An automobile company to employ about 125 mechanics has practically concluded negotiations to locate here. The president of the Duryea Power Co. has accepted the offer of the local board of trade, which offered to donate office buildings to the company on mutually satisfactory conditions.

New York—The Metropolitan Auto Co. is building a new garage at Broadway and Seventy-seventh street. This company is the distributing agent for the Autocar Co. S. H. Randolph, Jr., the president of the company, was formerly connected with the Diamond Rubber Co., as eastern agent. The other officers of the company are:

H. H. Colbath, treasurer, and George S. Kebabian, secretary.

Boston—C. S. Henshaw, agent for the Thomas Flyer, is looking for a location on Boylston street.

Newark, N. J.—George Paddock, of the Auto Vehicle Co., expects to be in his new garage about February 28.

Newark, N. J.—The Elmore Automobile Co. has established a local agency at 237 Halsey street. The new branch will be in charge of A. Elliott Ranney & Co.

Newark, N. J.—The Simms-Kent Mfg. Co. has accepted the offer of the board of trade to locate in Hackettstown, after considering several other offers. The company will equip the plant with the latest machinery for the manufacture of light weight castings for automobiles and other similar machinery.

Binghamton, N. Y.—Announcement is made of the transfer of stock of the Sterling Motor Car Co. to L. L. Heller, Ward Decker, Fay Spawn, J. S. O'Neill and J. O. Heller. L. H. Heller is the principal stockholder and retains the presidency. A charging plant capable of caring for thirty electrics will be established. The company handles the Locomobile, Colum-

bia, Royal Tourist, Cadillac and Columbia and Baker electrics.

Newark, N. J.—Ostler & Zanes have established a new garage at Halsey and Crawford streets.

New York—S. A. Campbell has become the manager of the E. T. Kimball Co., New York agent for the Corbin.

Buffalo—The Buffalo Automobile Exchange, of 401 Franklin street, has taken the agency for the Franklin.

Boston—B. F. Blany, who handles the Corbin in eastern Massachusetts, recently moved to the Motor Mart, where he will occupy two stores.

Chicago—R. C. Buston, formerly with the Locomobile people, is now associated with the Hamilton Automobile Co., the western branch of Smith & Mabley.

Detroit, Mich.—The Aerocar is now breaking ground for another addition to its plant, besides the factory recently completed. The new building will be 30 by 150 feet long.

Racine, Wis.—Two additional buildings have recently been added to the plant of the Mitchell Motor Car Co. The entire factory has been operated night and day since February 15.

Burton, O.—The machine shop and foundry formerly owned by the old Burton Mfg. Co. has been leased to Barberton men and will be fitted up and put into shape for the manufacture of gasoline engines.

Philadelphia—Gilbert S. Smith, manager of the Hamilton Auto Co., closed a deal for the sales rights for the Queen automobile in this territory. The Hamilton company also handles the Stoddard-Dayton and the Corbin.

Buffalo—McNaughton & DuBroy will go in the retail automobile business in the spring. They have rented the Werner building on Main street. In addition to American cars, they will handle such well known foreign makes as the Mercedes, Renault and Simplex.

New York—Walter Allen, heretofore identified with the Mercedes Import Co., sold his interest in that concern to A. C. DeWitt, and in future will confine his attention to the de Dietrich Import Co., of which he is president. The latter company now occupies its new home in Forty-fourth street, near Fifth avenue.

Paterson, N. J.—Alfred B. Watson, Samuel J. Watson and Edwin M. Squires have formed the Automobile Co., of Paterson. The concern is located at 217 Paterson street and has been incorporated for the purpose of building, operating and preparing for the market motor cars and engines. A garage business will also be conducted by the Paterson company.



NEW INCORPORATIONS

Cleveland, O.—Oliver Electric Vehicle Co.; capital stock, \$10,000.

Los Angeles, Cal.—Angeles Motor Car Co.; capital stock, \$30,000.

Chicago—Cullman Wheel Co.; capital stock, \$15,000; to manufacture automobile parts and appliances.

New York—American Anti-Tire Puncture & Automobile Co.; capital stock, \$50,000.

Montclair, N. J.—Montclair Auto Station Co.; capital stock, \$50,000; to manufacture motors, engines, machinery, etc.

Harrisburg, Pa.—York Motor Car Co.; capital stock, \$100,000; to incorporate, Samuel E. Bailey, Albert P. Broomell and James A. Kline.

Albany, N. Y.—Interstate Automobile Clearing Co.; to deal in second-hand automobiles; incorporators, G. H. Stillwell of the H. H. Franklin Mfg. Co., W. E. Metzger of the Cadillac company and C. A. Wardle of New York.

Baldwinsville, N. Y.—American Gasoline Motor Co.; capital stock, \$20,000; to manufacture gasoline motors, boats, etc.

York, Pa.—York Motor Car Co.; capital stock, \$100,000.

Augusta, Me.—York County Garage; capital stock, \$100,000; to deal in automobiles.

Los Angeles, Cal.—Woodhill Auto Co.; capital stock, \$25,000.

Brooklyn—Mack Brothers Mfg. Co.; capital stock, \$300,000; to manufacture motors, engines, machinery, etc.

New York—Association of Motor Vehicle Manufacturers; to foster trade, reform abuses in business and to promote harmony in the trade; incorporators, Robert M. Lloyd, New York; George Pope, Hartford, Conn.; M. L. Goss and J. W. McCrea, Cleveland; T. W. Goodridge, South Bend, Ind.; James McNaughton, Buffalo.

Trenton, N. J.—Morristown Garage Co.; capital stock, \$50,000; to run a general garage business.



OFFICERS

ISAAC B. POTTER, President,
Foster Building, New York.

CHARLES E. DURYEA, First Vice-
Pres., Reading, Pa.

JOHN A. HAWKINS, Second Vice-
President, Pittsburg, Pa.

FRANK A. EGAN, Secretary,
182 Nassau St., New York.

FREDERICK B. HILL, Treasurer,
32 Binford St., Boston.

National Headquarters
Vanderbilt Building, New York

THIS LEAGUE
Is Now Collecting Route Infor-
mation

covering all automobile routes in the important states and will publish road books for motor car users as fast as complete information is received. The A. M. L. is the only organization engaged in this work, and it invites the co-operation of all persons interested. For full information and membership blanks address American Motor League, Vanderbilt Building, New York City.

APPOINTMENT OF CONSULS

The following named members have been appointed consuls of the league at the places where they severally reside. Jerome P. Parker, Memphis, Tenn.; George W. Keller, Rochester, N. Y.; J. Arthur Holsman, Peoria, Ill.; Charles C. Ackerman, Union, N. J.; L. F. Hoffman, Meyersdale, Pa.; Alfred W. Norris, Saginaw, Mich.; E. E. Carter, Allegheny, Pa.; James M. Horner, Edgewood Park, Pa.; George L. Hailman, Pittsburg, Pa.

NEW OFFICIAL STATIONS

The following official garages, repair and supply stations have been added to the list since the last announcement: Willows Cyclery & Garage, 441 Tehama street, Willows, Cal.; Miami Motor Car Co., 117 East Second street, Dayton, O.; Stone's Auto Works, 1001 Main street, Stroudsburg, Pa.; W. D. Strong & Co., 472 Euclid avenue, Cleveland, O.; Dover Garage Co., 47 East Blackwell street, Dover, N. J.; Dingle & Wetherbee, 173-177 Berkeley street, Boston, Mass.; Fred L. Johnson, 86 North Main street, Concord, N. H.; M. S. Neighbour, Hope street, near D., L. & W. R. R., Hackettstown, N. J.; C. R. Zacharias, Eagle Hall block, Asbury Park, N. J.; Franco-American Auto Co., 415-417 Guy street, Montreal, Que.; National Electrical Supply Co., 1330 New York avenue, Washington, D. C.; T. S. Ward, 23-25 Lafayette street, Saratoga Springs, N. Y.; Utica Automobile Station, 22-24 West Utica street, Buffalo, N. Y.; Frank Anderson, 113 Main street, Aurora, Ill.; Automobile Supply Co., 1339 Michigan avenue, Chicago, Ill.; Charles I. Swift, Millbrook, N. Y.; Harvey Brothers, Hillsdale, N. Y.; New Castle Auto Co., 27-29 Cochran street, New Castle, Pa.; Shepard Mfg. Co., 364 Franklin street, Melrose Highlands, Mass.; Central Garage, 333-334 East Market street, Indianapolis, Ind.; C. H. Cantillion, 90 Main street, Torrington, Conn.; Illinois Automobile & Parts Co., corner Main and Globe streets, Peoria, Ill.; Walter E. Baker, 155 Broad street, Claremont, N. H.; Snyder Cycle & Automobile Co., 229-231 West Market street, York, Pa.; Duryea Power Co., West Elm and River streets, Reading, Pa.; W. H. Quackenbush, 26 Prospect street, Westfield, N. J.; F. H. Hayes, 66 South Main street, Washington, Pa.; Lombardi Motor Co., 71 Minerva street, Derby,

Conn.; Willis H. Dutton, 24 Washington street, Morristown, N. J.; Springfield Automobile Co., 40 Liberty street, Springfield, Mass.; William Burns, 50 Farnsworth avenue, Bordentown, N. J.; R. Barrett, 92 Main street, Palmyra, N. Y.; Joseph B. Hoff, Main street and Lexington avenue, Lakewood, N. J.; Brown-Talbot Machinery Co., 19 Oakland street, Salem, Mass.; Hawkins Auto & Gas Engine Co., 908 Texas avenue, Houston, Tex.; Frank Toeper's Sons, 460 National avenue, Milwaukee, Wis.; George S. Cobb, 216 North Main street, Goshen, Ind.; P. C. Rutan, 46 Front street, Port Jervis, N. Y.; Charles H. Childs & Co., 126 Lafayette street, Utica, N. Y.; P. C. Rutan, 97 North street, Middletown, N. Y.; Jerome P. Parker, 46-48 South Second street, Memphis, Tenn.; Perley C. Sturgess, 29 Wall street, Norwalk, Conn.; H. J. Willard Co., 28-34 Preble street, Portland, Me.; South-West Automobile Co., 305-307 Main street, Joplin, Mo.; Read Machine Works, 44 Main street, Belfast, Me.; Peckham Carriage Co., 1420 South Saint Clair street, Dayton, O.; E. M. Earle & Son, Richfield Springs, N. Y.; Joplin Automobile Co., 618-620 Wall street, Joplin, Mo.; Sterling Garage & Auto Co., Prince street, Elizabeth, N. J.; Bemis & Jewett, 790 Beacon street, Newton Centre, Mass.; E. P. Horton, 2-4 Mamaroneck avenue, White Plains, N. Y.; Norris City Garage, Main and Chain streets, Norristown, Pa.; Motor Car Co. of New Jersey, 291-293 Halsey street, Newark, N. J.; Newburgh Auto Shop, 249 Grand street, Newburgh, N. Y.; Albany Garage Co., 28-30 Howard street, Albany, N. Y.; Frank W. Sanborn, 176 North Main street, Concord, N. H.; Bath Automobile & Gas Engine Co., Broad and Commercial streets, Bath, Me.; King Mfg. & Garage Co., 82½ West Main street, Springfield, O.

OFFICIAL HOTELS

The following named hotels have been added to the official list: Buffalo, N. Y., Hotel Iroquois; Lake Sunapee, N. H., Ben Mere Inn; Baltimore, Md., Hotel Altamont; New London, Conn., Crocker house; Delaware Water Gap, Pa., The Kittatinny; York, Pa., Hotel National; Highland Park, Ill., the Moraine; Trumansburg, N. Y., Cornell house; Rochester, N. Y., Osburn house; Henderson Harbor, N. Y., Ho-

tel De Snow; Pittsburg, Pa., Hotel Henry; Baltimore, Md., Hotel Rennert; Chicago, New Southern hotel; Winsted, Conn., Hotel Winchester; Averill, Vt., Lakeside inn; Marietta, Pa., Witmer's Cross Keys hotel; Manchester, N. H., New City hotel; Warren, O., Park hotel; Pittsburg, Pa., Hotel Schenley; Philadelphia, Pa., New Bingham; Hudson, N. Y., the Worth; Schenectady, N. Y., Edison hotel; Chatham, Mass., Monomoyck Inn; Palmer, Mass., Nassawanno house; Middleburgh, N. Y., Hotel Baker; Bainbridge, N. Y., Central hotel; Ridgewood, N. J., Hotel Rouclere; Coatesville, Pa., Hotel Taylor; Chester, Mass., Riverside Inn; Stony Creek, Conn., the Three Elms; Gloucester, Mass., Nyack, N. Y., St. George hotel; Butler, Pa., New Nixon; Peekskill, N. Y., Hotel Raleigh; Schenectady, N. Y., Hotel Vendome; Manhattan, N. Y., Ashland house; Bethlehem, N. H., Howard; Wauseon, Ohio, Hotel Blair; Newton, Conn., Grand Central hotel; Saybrook Point, Conn., Pease house; Mauch Chunk, Pa., American hotel; Shandaken, N. Y., Whitney hotel; Ashley Falls, Mass., Maplewood Inn; Curwensville, Pa., Park house; Sag Harbor, N. Y., American hotel; Litchfield, Conn., Hawkhurst; Ottawa, Ill., Clifton hotel; Mount Clemens, Mich., Colonial; Erie, Pa., Reed house; Elkhart, Ind., Bucklen; Sidney, N. Y., Hotel Sidney; Streator, Ill., Columbia hotel and annex; Mt. Washington, N. H., Profile house; Vergennes, Vt., Hotel Lenox; Boston, Mass., Hotel Vendome; Buffalo, N. Y., Lenox; Gorham, N. H., Mt. Madison house; Freehold, N. J., American hotel; Anderson, Ind., Hotel Doxey; New City, N. Y., New City hotel; Orwell, Vt., Allentown, Pa., Hotel Allen; Suffern, N. Y., Hotel Rockland; Goshen, N. Y., Occidental hotel; Waterbury, Conn., Elton; White Mountains, N. H., Maplewood hotel and cottages; Buffalo, N. Y., Castle Inn; Newport, R. I., Pelham.

Good, reliable route information is scarce and hard to get. The league has been collecting the best that could be had in every part of the country where motorists could be found who would contribute to the work. More is needed. The league is about to appoint a route committee in each important state. Full printed information sent by the secretary on request. Address, American Motor League, Vanderbilt building, New York.